



District 7 Update 2000

Los Angeles • Ventura Counties



Gray Davis - GOVERNOR

Maria Contreras-Sweet - SECRETARY, BUSINESS, TRANSPORTATION AND HOUSING AGENCY

Jeff Morales - DIRECTOR, CALIFORNIA DEPARTMENT OF TRANSPORTATION

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THE CALTRANS MISSION

The Caltrans Mission is to improve mobility across California.

California will have the safest, best managed seamless transportation system in the world.

- Every Caltrans employee contributes to improving mobility.
- Our workforce will be a diverse, professional and effective team that values each other's contributions.
- We will be responsive and accountable TO OUR CUSTOMERS.
- We will be well-managed and serve as a model for others.
- We will work in partnership with other agencies and the public to assure that our work is done in a way that is sensitive to the needs of the environment and communities.
- We will use the latest research and technology to improve mobility for people, goods and information.
- We anticipate and plan for changes.
- The public will appreciate the quality of our product, service and the ongoing participation they have in our decision-making.

Department Goals:

- Continue to improve the effectiveness of our product, information and service.
- Continue to improve a high performing and successful workforce.
- Communicate effectively internally and externally with all of our customers.
- Demonstrate leadership and integrity in everything we do.
- Be good stewards of the public's resources and transportation investments.

Caltrans' Principles:

- We strive for quality in everything we do.
- We have integrity.
- We are committed to our employees and California.
- We get it done with teamwork.
- We lead the way.
- We are accountable.
- We are innovative and flexible.
- We communicate.
- We empower employees.

THE CALTRANS ORGANIZATION



JEFF MORALES

DIRECTOR, CALIFORNIA DEPARTMENT OF TRANSPORTATION

In May 2000, Gov. Gray Davis appointed Jeff Morales as Director of the California Department of Transportation (Caltrans), where he manages a \$10 billion budget and more than 22,000 employees working to build, maintain and operate the largest state transportation system in the country.

Director Morales formally began his duties on June 1, 2000, after serving as Executive Vice President for Management and Performance at the Chicago Transit Authority (CTA).

In joining Caltrans, Director Morales' highest priority is to deliver Gov. Davis' far-reaching plan to cut traffic congestion in the state. He is charged with finding new ways to improve the pace and efficiency of the Department's project delivery process.

The 2000/01 California State Budget commits \$6.8 billion in new transportation funds, including \$5.3 billion for Gov. Davis' Transportation Congestion Relief Plan. Over the next five years, the plan will underwrite more than 100 locally recommended projects, the largest General Fund commitment to transportation in state history.

Director Morales has a wide range of experience in transportation and government. At the CTA, he spearheaded major reforms to improve service and increase ridership at the nation's second largest transit agency. Those efforts were instrumental in reversing the steady decline in ridership that had prevailed for the previous 15 years.

Prior to his tenure at the CTA, he was a senior staff member with Vice President Al Gore's National Performance Review, the task force to reinvent the federal government. It has saved taxpayers more than \$130 billion and produced dramatic improvements in the management of federal programs.

He secured unprecedented reforms within the Federal Aviation Administration's personnel and procurement systems. In 1996/97, he was issues director of the White House Commission on Aviation Safety and Security, which laid out a blueprint for a national aviation policy in the 21st century. Morales held senior positions at the U.S. Department of Transportation and was on the staff of the U.S. Senate, where he was a principal drafter of the landmark Intermodal Surface Transportation Efficiency Act of 1991. He is married and has two children.



TONY V. HARRIS

CALTRANS CHIEF DEPUTY DIRECTOR

As the Chief Deputy Director for the California Department of Transportation, Tony V. Harris is responsible for the daily operations of the Department's 22,000 employees and nearly \$10 billion annual budget.

Also known as Caltrans, the organization is the largest state Department of Transportation in the country. It operates a multi-modal system that includes more than 15,000 miles of highway, an inter-city network of passenger trains, and has oversight of such programs as aeronautics, planning

mass transportation, traffic operations and management, and assistance to local and regional transportation agencies.

Appointed officially on March 6, 1999, Harris came to his new job after 16 years of engineering and management experience with both Caltrans and the Federal Highway Administration (FHWA).

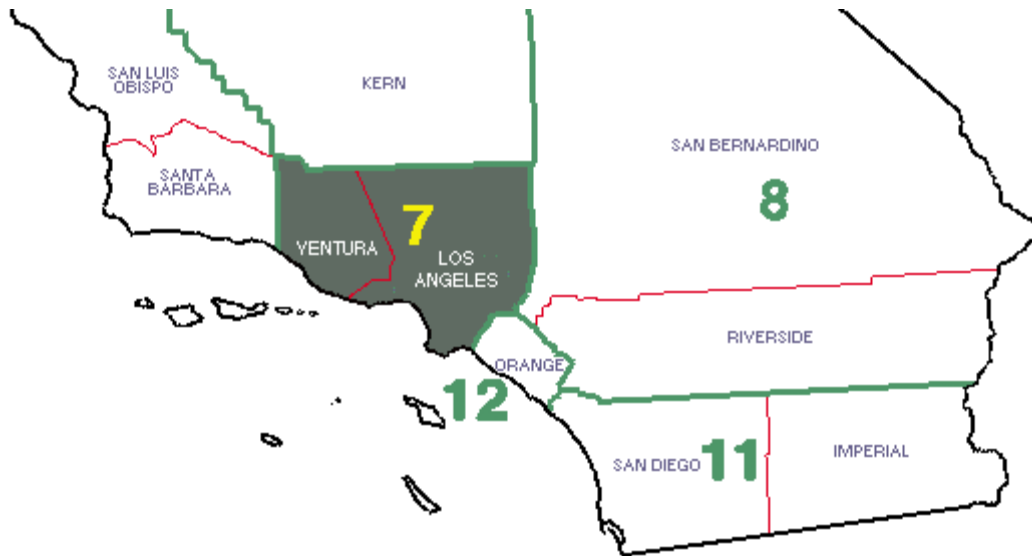
Harris' duties include acting on behalf of the Caltrans Director in his absence, and executive responsibility for the Department's 12 Districts and six Service Centers. He further is delegated to act on behalf of the Director at various meetings, boards and commissions.

Since 1997, Harris had been the Caltrans District 7 Director, an administrative area consisting of 2,300 employees and a \$2.3 billion budget. During that assignment, he was responsible for overseeing the state transportation system, including 1,191 miles of freeways and highways in Los Angeles and Ventura counties.

Prior to his assignment in Los Angeles, he had served from 1989 to 1997 in Sacramento as a program manager, office chief, and design engineer for Caltrans. Among his high-profile assignments, Harris worked as a design engineer on Oakland's Cypress Freeway replacement project.

A licensed engineer, Harris earned his degree in civil engineering from North Carolina State University.

DISTRICT 7 PROFILE



Southern California State Map of Caltrans Districts and Counties

VITAL STATISTICS ON CALTRANS DISTRICT 7 (LOS ANGELES & VENTURA COUNTIES)

The California Department of Transportation (Caltrans), formerly known as the California Division of Highways, was established by the state Legislature in 1972. The department is primarily responsible for the planning, design, construction, maintenance and operation of the state highway system. Other responsibilities include mass transit system enhancement, railroad system development, sea port and waterway expansion, air transportation planning and assisting area governments and agencies in planning and developing local transportation improvements.

District 7, which includes Los Angeles and Ventura counties, is the second largest of Caltrans' 12 districts. It employs approximately 2,600 people, with the largest group - approximately 1,500 - working in the Construction and Maintenance area.

The remaining employees in District 7 are distributed between External Affairs, Resource Management, Planning, Design, Program and Project Management, Operations and Right of Way. The annual personnel and operating expense budget is approximately \$237,000,000.

There are 27 freeways located within District 7 that, if placed end-to-end, would stretch for 615 miles. During the next seven years, the District will manage a budget of approximately \$2.3 billion, which includes all aspects of highway and rail design and construction.

There are 88 cities and 4,083 square miles in Los Angeles County, which has a population of over 9.6 million people. There are 92 million vehicle miles traveled on the county's 527 miles of freeway on an average day. There are 382 conventional highway miles in Los Angeles County.

Ventura County spans 1,873 square-miles, includes 10 cities, and has a population of over 700,100. An average of

7 million-vehicle miles are traveled on a daily basis on the county's 88 miles of freeway. There are 185 conventional highway miles in Ventura County.

The first freeway in California was the Pasadena Freeway (110). Originally called the Arroyo Seco Parkway, it was 6 miles long and cost \$5.7 million. It opened on Dec. 30, 1940. The newest freeway is the 17.3-mile Glenn Anderson (Century) Freeway, which stretches from Norwalk to El Segundo. It opened on Oct. 14, 1993 and cost \$2.3 billion.

DISTRICT 7 MILEAGE

Freeway miles in Los Angeles County: 527

Highway miles in Los Angeles County: 382

Total freeway/highway miles in Los Angeles County: 909

Freeway miles in Ventura County: 88

Highway miles in Ventura County: 185

Total freeway/highway miles in Ventura County: 273

Total freeway miles in District 7: 615

Total highway miles in District 7: 567

Total freeway/highway miles in District 7: 1,182

DISTRICT 7 MILES TRAVELED

Average Vehicle Miles Traveled per day in Los Angeles County (in millions): 92

Average Vehicle Miles Traveled per day in Ventura County (in millions): 7

Total Average Vehicle Miles Traveled per day in District 7 (in millions): 99



ROBERT W. SASSAMAN

DISTRICT 7 DIRECTOR

Robert W. Sassaman, a prominent engineer and administrator who helped bring an innovative project management system to Caltrans, is responsible for the day-to-day operation of District 7, which includes Los Angeles and Ventura counties.

Sassaman was appointed to his current position as District Director at Caltrans District 7 on October 19, 1999. Prior to his appointment, he served as Chief Deputy for four years. In March of 1999, he stepped into the position of heading the district when Governor Gray Davis named Tony Harris, as Caltrans Chief Deputy Director in Sacramento. Prior to his tenure as Chief Deputy, he was Deputy District Director for Project Management at Caltrans District 8 in San Bernardino, a post he held since 1988. In that capacity, he was responsible for directing a professional engineering staff in the development, design and delivery of highway projects totaling in excess of \$100 million a year.

Sassaman was a member of a team that helped develop the project management concept at Caltrans, and later helped implement the system in District 8. The district was the first one in the state to use “single hat” project managers to streamline the process of delivering transportation improvements. He also was a facilitator at the project management academies that taught the system to Caltrans supervisors.

Among Sassaman’s other career highlights are supervising the design of the complex Simi Valley/San Diego Freeway interchange (now named the Ronald Reagan Freeway - 118/405) in the San Fernando Valley area of Los Angeles.

Sassaman was born in Neptune, New Jersey, but grew up in Phillipsburg, on the Pennsylvania border. He earned a Bachelor of Science degree in Civil Engineering from Lafayette College in Easton, Pennsylvania, and a Master of Science degree in Civil Engineering from the University of Southern California. He also completed course work at California State University, Long Beach, and Mount San Antonio College in Walnut, California, in business management. He holds a certificate in real estate from Mount San Antonio College.

Sassaman was hired at Caltrans District 7 as a junior civil engineer in July of 1962; and held a variety of positions within the district over the next 26 years. They included Design Project Engineer of the 118/405 Freeway interchange; Resource Management Section Chief; Project Management Section Chief; Hydraulics Section Chief; Management Services Branch Chief; and Deputy District Director for Administration.

Sassaman is registered as a Professional Engineer in California (Civil), and is a member of the American Society of Civil Engineers and the Project Management Institute.



DOUGLAS R. FAILING

ACTING CHIEF DEPUTY DIRECTOR, AND DIVISION CHIEF OF DESIGN

Douglas R. Failing, District 7's Division Chief for Project Development, manages a staff of approximately 470 engineers, surveyors and technical support staff responsible for delivering \$1.5 billion worth of transportation improvements in Los Angeles and Ventura counties.

Failing's prior positions include District 7's coordinator for a federally mandated conversion to the metric system, sound wall program manager, and past chairman and instructor of the District's "On-the-Job Training" program.

Failing also represented Caltrans on the Alameda Corridor Transportation Authority Governing Board. The major goods-movement project includes a 20-mile rail distribution system to connect the ports of Los Angeles and Long Beach with the distribution centers downtown. It is estimated that the Alameda Corridor could result in employment growth of 700,000 in Southern California by the year 2020 and economic output increase of about \$70 billion.

Prior to his promotion to his current position in February of 1994, Failing was Chief of Project Development Branch D and a project manager responsible for the design and implementation of numerous transportation improvements within Los Angeles and Ventura counties.

Following the devastating Northridge earthquake of Jan. 17, 1994, Failing was placed in the forefront of the recovery effort. He and his staff delivered three of the four major freeway-rebuilding contracts — all in record time. The projects were awarded by competitive bid using a cost-plus-time system, which allowed reconstruction to begin within days rather than months. It was the first time the system had ever been used at Caltrans.

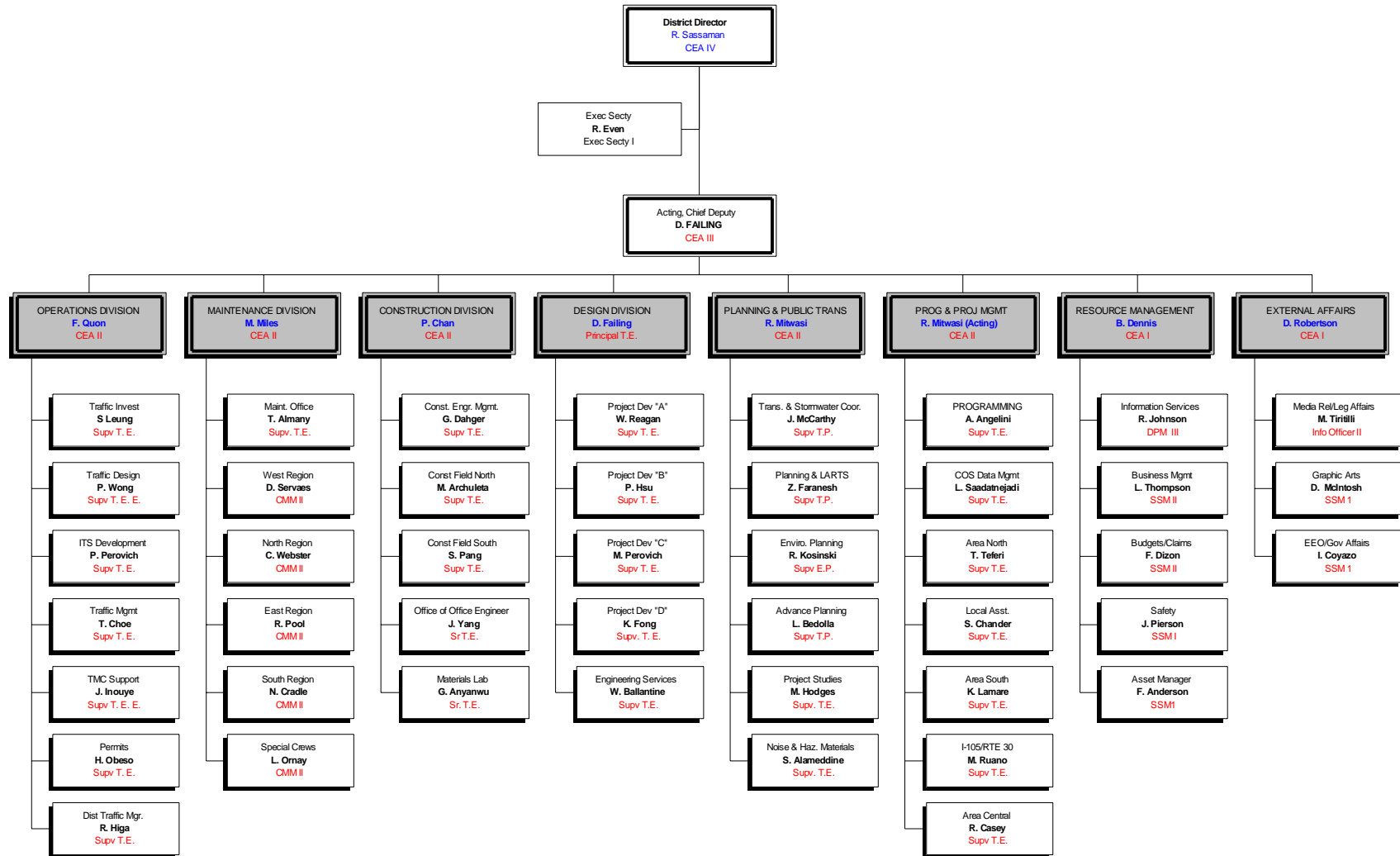
Failing oversaw the reconstruction of the Golden State Freeway at Gavin Canyon, the Santa Monica Freeway at La Cienega/Fairfax and Venice/Washington, and the interchange projects at the Golden State and Antelope Valley Freeways.

Failing, a native of Grayling, Mich., is a 1975 graduate of Grayling High School. He earned a Bachelor of Science Degree in Civil Engineering from Michigan Technological University in Houghton in 1980. He was hired at Caltrans in June of 1980 as a junior civil engineer.

He is a Registered Civil Engineer in the State of California and was an Executive Board member of the Institute for the Advancement of Engineering and past president of the IAE-College of Fellows. The non-profit educational corporations are organized to inform the general public of the role of engineering in advancing human welfare. The College of Fellows annually awards scholarships to deserving undergraduate engineering students.

Failing also is a trustee of the Arcadia Educational Foundation. This non-profit organization is dedicated to raising funds for the purpose of supporting the public school system in the community where Mr. Failing resides. He is also a member of the Order of the Engineer and Professional Engineers in California Government.

**State Of California
Department Of Transportation
District 07**





DEBORAH ROBERTSON

DIVISION CHIEF OF EXTERNAL AFFAIRS

The division of External Affairs provides services in the areas of Media relations/Public Affairs, Legislative and Governmental Affairs, Equal Opportunity, Graphic Services, and Executive Office Support.

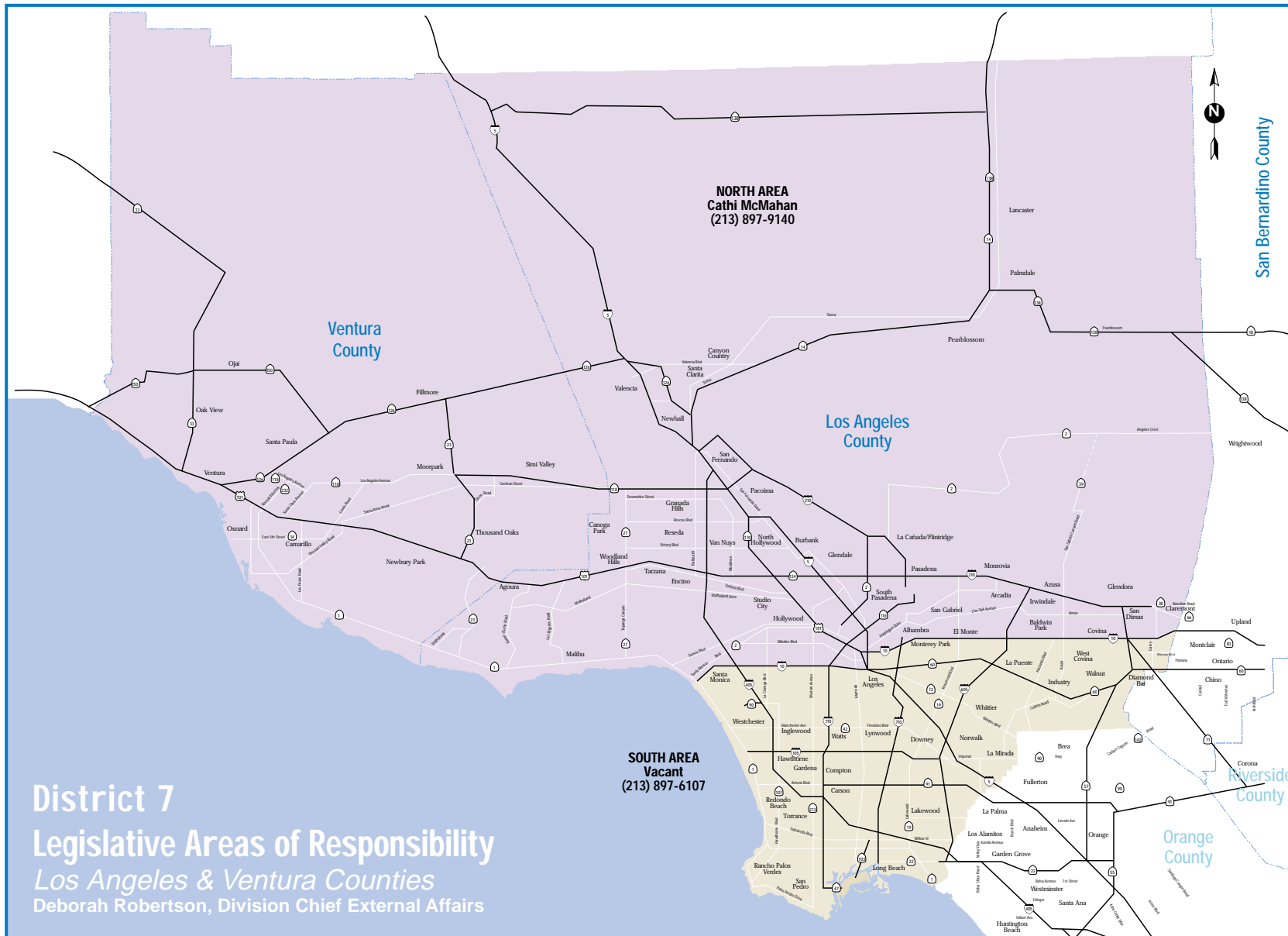
District 7, representing a highly populated and diverse segment of the state, assists in providing transportation facilities and services to over 8 million members of the motoring public. The District, covering Los Angeles and Ventura Counties, handles legislative inquiries from over 60 state and federally elected officials' offices, and local elected inquiries from approximately 100 incorporated cities and county municipalities' governments. Additionally, recognizing the greater Los Angeles area as a major media and entertainment center, both nationally and internationally, the Division of External Affairs responds to a host of various media venues covering transportation related issues.

Prior to her current position, Ms. Robertson was the Chief of Certifications, for the Department's Business Enterprise Program. Regulated by federal and state guidelines, the Office was responsible for maintaining the certification eligibility of over 6,000 certified Disadvantaged Businesses for all state agencies providing contracting opportunities. During this assignment, Ms. Robertson was instrumental in reducing overall certification processing time; managing a monthly average workload of 400 applications; and continuing to streamline processes to improve overall operations.

Ms. Robertson also has held the position of District Human Resources Branch Chief and Branch Chief of Public and Governmental Affairs in District 8, from 1990 to 1995. Her overall responsibilities included managing resources and activities in the areas of Budgets, Personnel, Safety/Labor Relations, Training, and Governmental Affairs. As Human Resources Chief, she was responsible for administering the District's multi-million dollar operating expense budget and development of staffing plans consistent with reduced allocations.

Prior to her current career with Caltrans, Ms Robertson held various positions in her professional career, some of which included: Special Assistant to the Director for the Port of Los Angeles, Business Representative for Service Employees International Union and Program Director for the San Diego Youth Involvement Project.

A native Californian from San Diego, Ms. Robertson holds a Bachelor of Arts Degree in Urban Planning from the University of California, San Diego (UCSD), and a Masters degree in Public Administration from City University of New York (CUNY). She is a 1986 graduate of the National Urban Fellows.



District 7 Area of Responsibility

North Area

ASSEMBLY DISTRICTS

- 34 Keith Olberg
- 35 Hannah Beth Jackson
- 36 George Runner
- 37 Tony Strickland
- 38 Tom McClintock
- 39 Tony Cardenas
- 40 Robert M. Hertzberg
- 41 Sheila J. Kuehl
- 42 Wally Knox
- 43 Scott Wildman
- 44 Jack Scott
- 45 Antonio Villaraigosa
- 49 Gloria Romero
- 59 Bob Margett

SENATE DISTRICTS

- 17 William Knight
- 18 Jack O'Connell
- 19 Cathie Wright
- 20 Richard Alarcon
- 21 Adam Schiff
- 22 Richard Polanco
- 23 Tom Hayden
- 29 Richard Mountjoy

CONGRESSIONAL DISTRICTS

- 23 Elton Gallegly
- 24 Brad Sherman
- 25 Howard McKeon
- 26 Howard Berman
- 27 James Rogan
- 28 David Dreier
- 29 Henry Waxman
- 30 Xavier Becerra
- 31 Matthew Martinez

U. S. SENATE

Barbara Boxer

South Area

ASSEMBLY DISTRICTS

- 46 Gil Cedillo
- 47 Herb Wesson
- 48 Roderick Wright
- 50 Marco Firebaugh
- 51 Edward Vincent
- 52 Carl Washington
- 53 George Nakano
- 54 Alan Lowenthal
- 55 Richard Floyd
- 56 Sally Havice
- 57 Martin Gallegos
- 58 Thomas Calderon
- 60 Robert Pacheco
- 61 Neil Soto

SENATE DISTRICTS

- 24 Hilda Solis
- 25 Teresa Hughes
- 26 Kevin Murray
- 27 Betty Karnette
- 28 Debra Bowen
- 30 Martha Escutia
- 32 Joe Baca

CONGRESSIONAL DISTRICTS

- 32 Julian Dixon
- 33 Lucille Roybal-Allard
- 34 Grace Napolitano
- 35 Maxine Waters
- 36 Steve Kuykendall
- 37 Juanita Millender-McDonald
- 38 Steve Horn
- 39 Edward Royce
- 41 Gary Miller

U. S. SENATE

Dianne Feinstein





PETER CHAN

DIVISION CHIEF OF CONSTRUCTION

Peter Chan, Division Chief for Construction, supervises 329 employees responsible for delivering a \$900 million freeway and highway construction program in Los Angeles and Ventura counties.

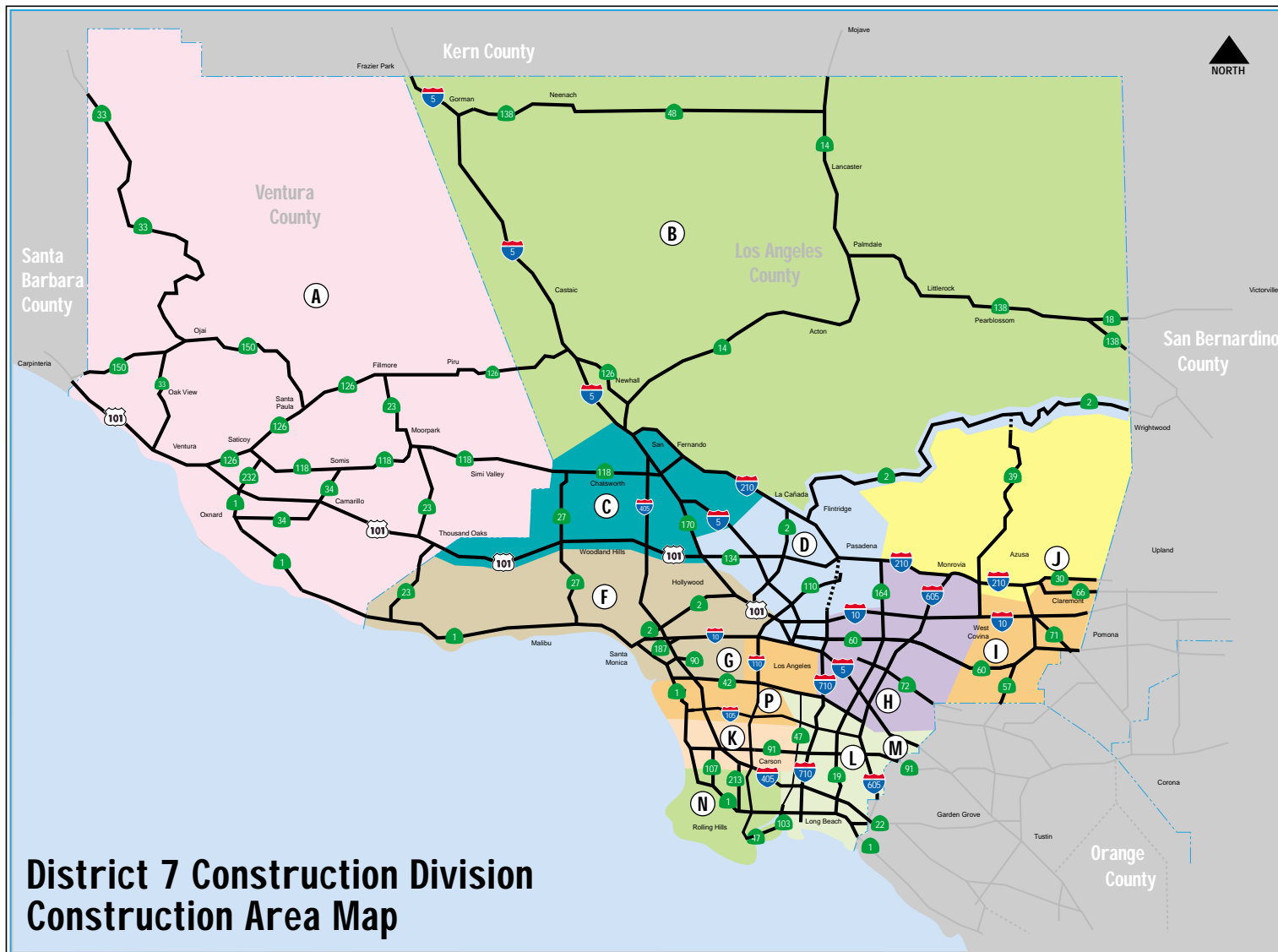
Prior to assuming his present job in August of 1995, Chan was Division Chief of Operations in District 8, where he was responsible for managing freeway and highway traffic in San Bernardino and Riverside counties.

Chan, a native of Taipei, Taiwan, earned a Bachelor of Science degree in civil engineering in 1973 from TamKang University in Taiwan. He was first hired with Caltrans District 7 in January of 1980 as a junior civil engineer. He later served as project engineer on the high-profile I-105 Glenn Anderson (Century) Freeway, and also on the Harbor Freeway-Transitway project. In that capacity, he helped plan, coordinate and complete the complex 105/605 interchange, and a key phase of the Harbor Freeway-Transitway projects, between Martin Luther King Jr. Boulevard and Slauson Avenue.

Chan was promoted to Senior Transportation Engineer and transferred to District 12 in June of 1988 as a project manager. He continued in that role upon his transfer to District 8 in February of 1991. In March of the following year, he took over as District 8's Branch Chief of Project Studies, and in April of 1993 was promoted to Division Chief of Operations.

Some of Chan's accomplishments include establishing the Southern Region one-stop transportation permit center to benefit the trucking industry, and assisting consultants and providing oversight in designing the 91 Freeway private toll road project in Orange County. In addition to his professional qualifications, Chan has done post-graduate study in Transportation Engineering, Traffic Engineering and Structures at California State University, Los Angeles.

He also holds numerous certificates, including ITS planning, mid-level management, project management and project oversight.



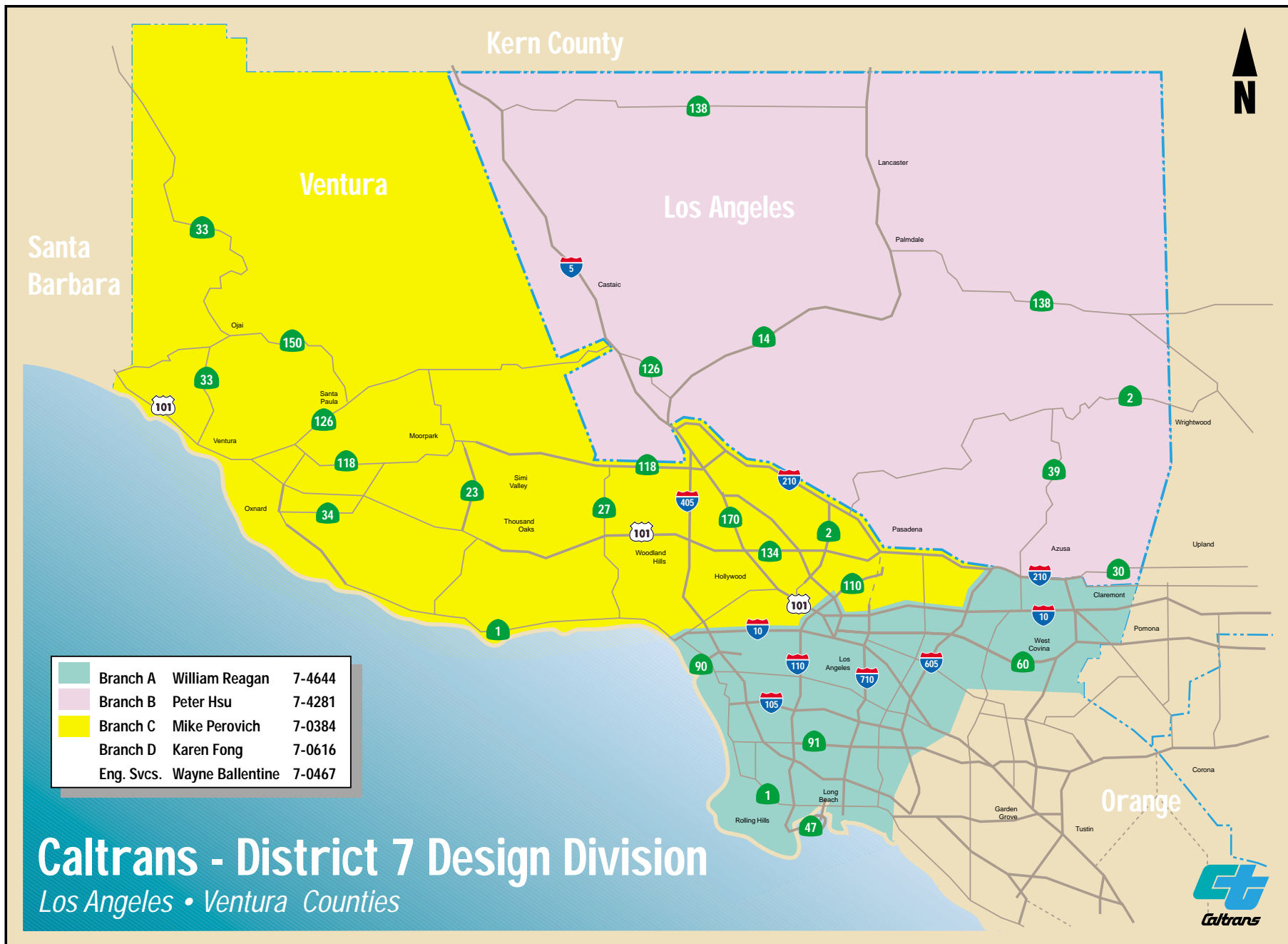
Peter Chan, Division Chief
 Ghassan Dagher, Chief Engineering Management
 Stephen Pang, Chief, Field South
 Mark Archuleta, Chief, Field North
 Rudy Chong, Structures Chief, Field South
 Mel Brown, Structures Chief, Field North

- G** Hillel Amos
Los Angeles (213) 740-7246
- C** George Chirinian
Mission Hills (818) 361-5947
Encino (818) 788-3303
- D** Norie Corpuz
Glendale (818) 637-2506
- H** Carry Ho
San Dimas (909) 305-1250
- B** Aaron Karasik
Valencia (805) 529-0622
- A** Fred Young / Gamal Tawfik
Moorpark (805) 529-0622

FIELD AREA SOUTH SENIORS

- N** Barry Khaviari
Carson (310) 768-1704
- M** Amy Mao
Cerritos (562) 865-4174
- L** Richard McCafferty
Downey (562) 401-3334
- F** Scott McKenzie
Los Angeles (310) 306-8791
- K** Andy Shigenaga
Carson (310) 609-0272
- J** Jose Ventocilla
San Dimas (909) 305-1250
- I** Chia Chi Wang
La Verne (909) 596-7628
- P** Reza Ameri
Carson (310) 609-0264







MICHAEL MILES

DIVISION CHIEF OF MAINTENANCE

Michael Miles, Division Chief of Maintenance for the California Department of Transportation (Caltrans) District 7, oversees about 1,000 employees responsible for the maintenance of 1,182 miles of freeways and highways in Los Angeles and Ventura counties.

As the top official responsible for maintenance in Los Angeles and Ventura counties - home to nearly a third of California's population - Miles manages an annual budget of approximately \$124 million and is responsible for 615 miles of freeway and 567 miles of highway. An average of 91 million vehicle - miles are traveled on the system each day.

Prior to assuming his current position in May 1997, Miles served as Division Chief of both the Maintenance and Planning Divisions for Caltrans District 8, which includes San Bernardino and Riverside counties.

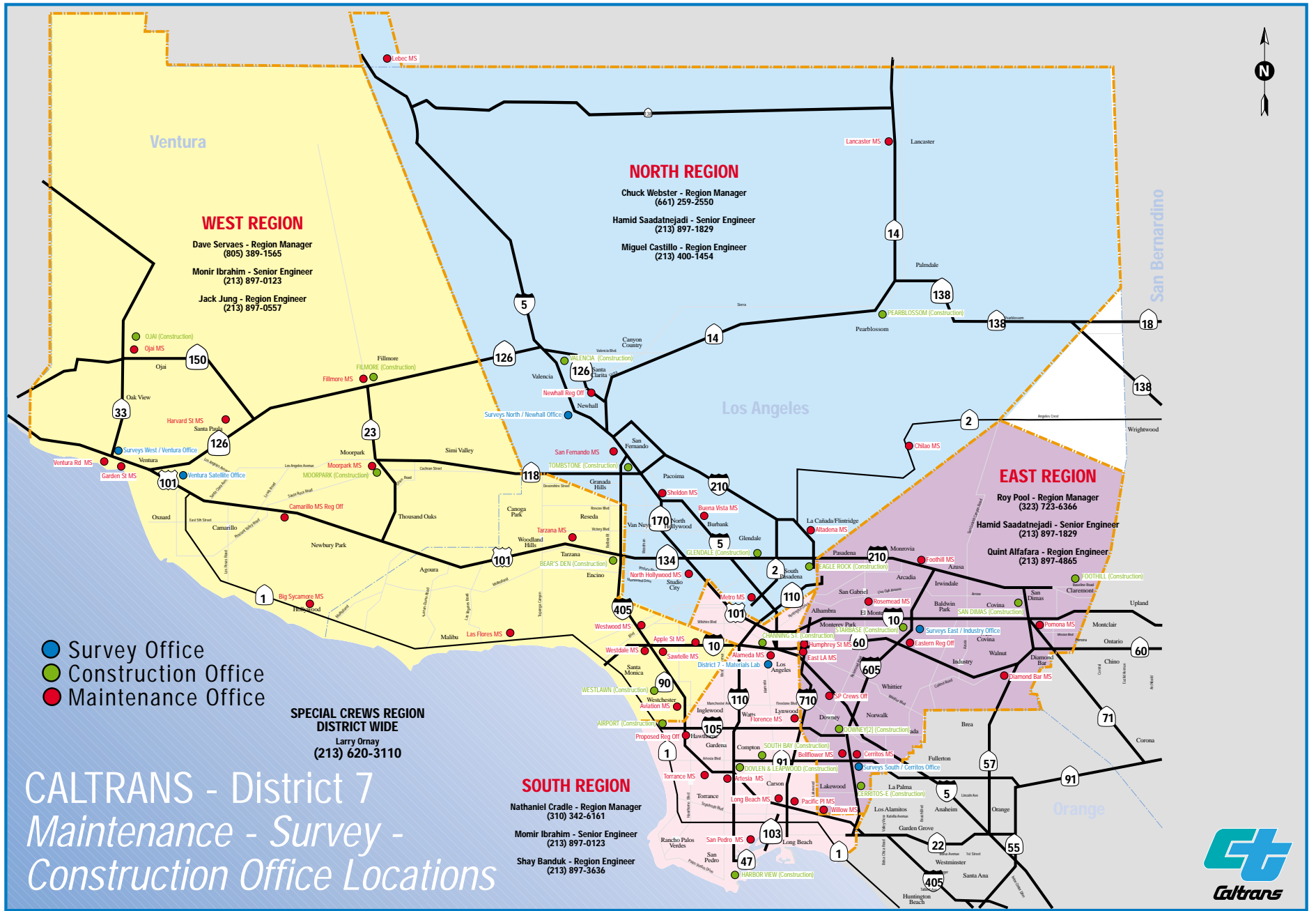
In August of 1999 until December of 1999, Miles served in Sacramento as the Acting Program Planning Manager for the Maintenance Program. Miles developed a cooperative and close working relationship with a variety of top level administrators and program managers. Miles currently serves on several committees developing policy and procedures that will be implemented statewide.

He joined Caltrans' District 8 in 1989, where he worked in several specialties including Branch Chief of Maintenance, District Permit Engineer, and Project Manager of the Highway Operational Safety Improvement Program (HSOP) projects.

Miles was also given a special assignment to head District 8's Transportation Planning Unit and he managed the progress of several major projects planned for the area. He is also credited with creating District 8's first Caltrans/Public Works Permit Workshop.

A native of Pomona, California, Miles graduated from Cal Poly Pomona, with a Bachelor of Science degree in civil engineering. He served eight years in the United States Air Force and is an active reservist. Prior to coming to work for Caltrans, Miles worked for General Dynamics in Pomona and General Dynamics East Valley Division as a Project Manager in Construction.

Miles is a registered civil engineer in the State of California and is a member of the American Society of Civil Engineers.





FRANK QUON

DIVISION CHIEF OF OPERATIONS

Frank Quon, District 7's Division Chief for Operations, has been at the forefront of several high-profile projects during his career with Caltrans.

He assumed traffic management duties as Division Chief of Operations in January 1996. In that capacity, he oversaw the \$8 million upgrade of the traffic management central computer systems of the downtown Transportation Management Center (TMC), which is responsible for freeway and highway traffic operations and management in the Los Angeles and Ventura County areas.

Quon currently supervises the following branches: Traffic Management, ITS Development, Traffic Investigations, Traffic Design, TMC Support, Permits, District Traffic Manager, and Showcase Project Director. His duties include managing a \$6 billion program to add High Occupancy Vehicle lanes to nearly every metropolitan freeway in District 7.

He oversaw the final stages of the development and deployment of the \$48 million Santa Monica Freeway Smart Corridor (I-10), which had its grand opening on October 11, 1996. It is one of the most visionary Intelligent Transportation Systems (ITS) projects ever developed and implemented in the nation. The project was funded by federal, state and local sources and has an unprecedented level of interagency and cross-jurisdictional coordination and support.

From 1995 until 1996, Quon was an Office Chief in the Division of Construction and managed and administered a \$250 million construction program in the Northern and Eastern portion of District 7.

Prior to that, Quon was in charge of Project Development Branch A from 1992 until 1995. He directed and managed activities for the \$2.25 billion, 17-mile Glenn M. Anderson (I-105) Freeway that opened in October 1993, after more than 30 years in the planning stages.

He also was Project Manager for the \$498 million, 19.6-mile Harbor Transitway (I-110) project that opened in June 1996 and includes the district's first elevated transitway. The elevated segment is a radical departure from previous freeway construction because it is built over existing lanes.

Quon joined Caltrans District 7 in Los Angeles in 1983 and has rotated through many different branches and has been responsible for a wide variety of transportation projects.

He is a registered Civil Engineer in California and is an advisory board member of the California Alliance for Advanced Transportation Systems (CAATS) and the California Government, Business, Education Tech Expo.

Quon graduated from Loyola Marymount University in 1980 with a Bachelor of Science in Civil Engineering.



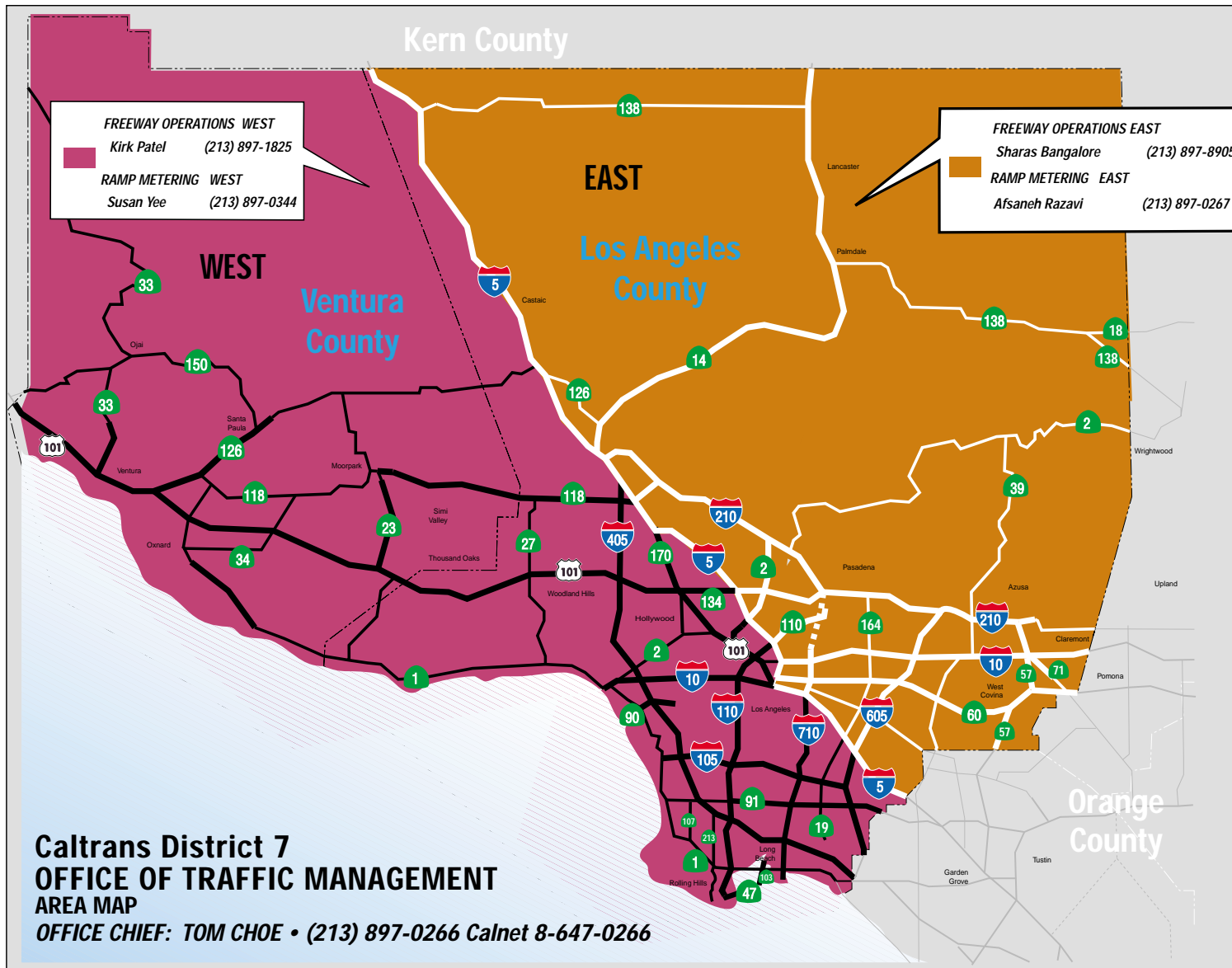
ROADWORK, SIGNING & PAVEMENT DELINEATION

- Roy Fukumoto (7-4291)
- Wah Shum (7-9300)

ELECTRICAL SYSTEMS

- Yi Tsau (7-4656)
- Arian Abrishami (7-0343)
- Yefim Zabezhinsky (7-1586)





- Transportation Management Center (TMC)
Osama Assaad (213) 897-0275
Shift Leader: David Lau 897-0340
- Freeway Service Patrol (FSP) & Call Boxes (SAFE)
Hassan Safari (213) 897-0333
- HOV Operations/Traffic Monitoring
Dawn Helou (213) 897-6672
HOV Counts: George Sarmast 897-8776
HOV Ops: David Wang 897-7185
Traffic Monitoring: Nick Jones 897-0335
- TOPS Program
Yu-Ying Chu (213) 897-6091





RAJA MITWASI

DIVISION CHIEF OF PROGRAM AND PROJECT MANAGEMENT

Raja Mitwasi, Division Chief of Planning and Public Transportation for Caltrans District 7, is responsible for Transportation Planning, Environmental Planning, Transportation Analysis & LARTS, Public & Transit Planning and the delivery of Project Study Reports for the District.

He is also required to coordinate & direct the planning of a balanced multimodal transportation system.

System Planning promotes the effective use of the existing regional Highway system. Regional Planning coordinates with SCAG in developing the regional transportation plan. Transportation Analysis provides travel forecasts for planning & design of transportation facilities & the analysis of traffic impacts. Environmental Planning ensures that all District projects & programs are environmentally cleared.

Mitwasi, who was promoted to his current position in April of 1995, also supervises all aspects of the local inter-city rail program. He directs a staff of 180.

Prior to his current position, Mitwasi was Office Chief of the High Occupancy Vehicle Branch for more than three years, which was responsible for developing 75 major projects encompassing 400 freeway miles at a cost of \$6.2 billion over 30 years. He also supervised the Traffic Operations System (TOS) Program, which consisted of 45 projects to create a network system to furnish an Urban Freeway Traffic Management System for 460 miles of freeway in Los Angeles County at a cost of \$650 over 10 years. In his role as a liaison with the Los Angeles County Metropolitan Transportation Authority, he assisted in the creation of the MTA's 20-year capital outlay plan.

In January of 1994, Mitwasi was acting Division Chief for Operations immediately following the Northridge earthquake. He was instrumental in planning the detours and resource allocation for the initial response, and later was on the executive committee that developed the long-term transportation recovery plan.

Mitwasi, a registered Civil Engineer in the State of California, earned a Bachelor of Science in Civil Engineering in May of 1981 and a Masters of Science in 1982 from the University of Arizona. He was hired with District 7 as a Junior Civil Engineer in August of 1984 and placed in the rotation program for three years. During that time he worked as an assistant resident engineer in pavement rehabilitation, freeway widening and rock slope protection projects. He also worked in Hydraulics, Traffic Operations and in Project Development, where he prepared preliminary designs for the Harbor Freeway Transitway.

He later was promoted to assistant transportation engineer in Project Development, where he worked on the Plans, Specifications and Estimates (PS&E) on the Harbor Freeway Transitway project. He later promoted to associate transportation engineer in the Local Streets & Roads branch.

In 1990, Mitwasi transferred to the Traffic Operations Branch in District 12, where he worked for 18 months as a

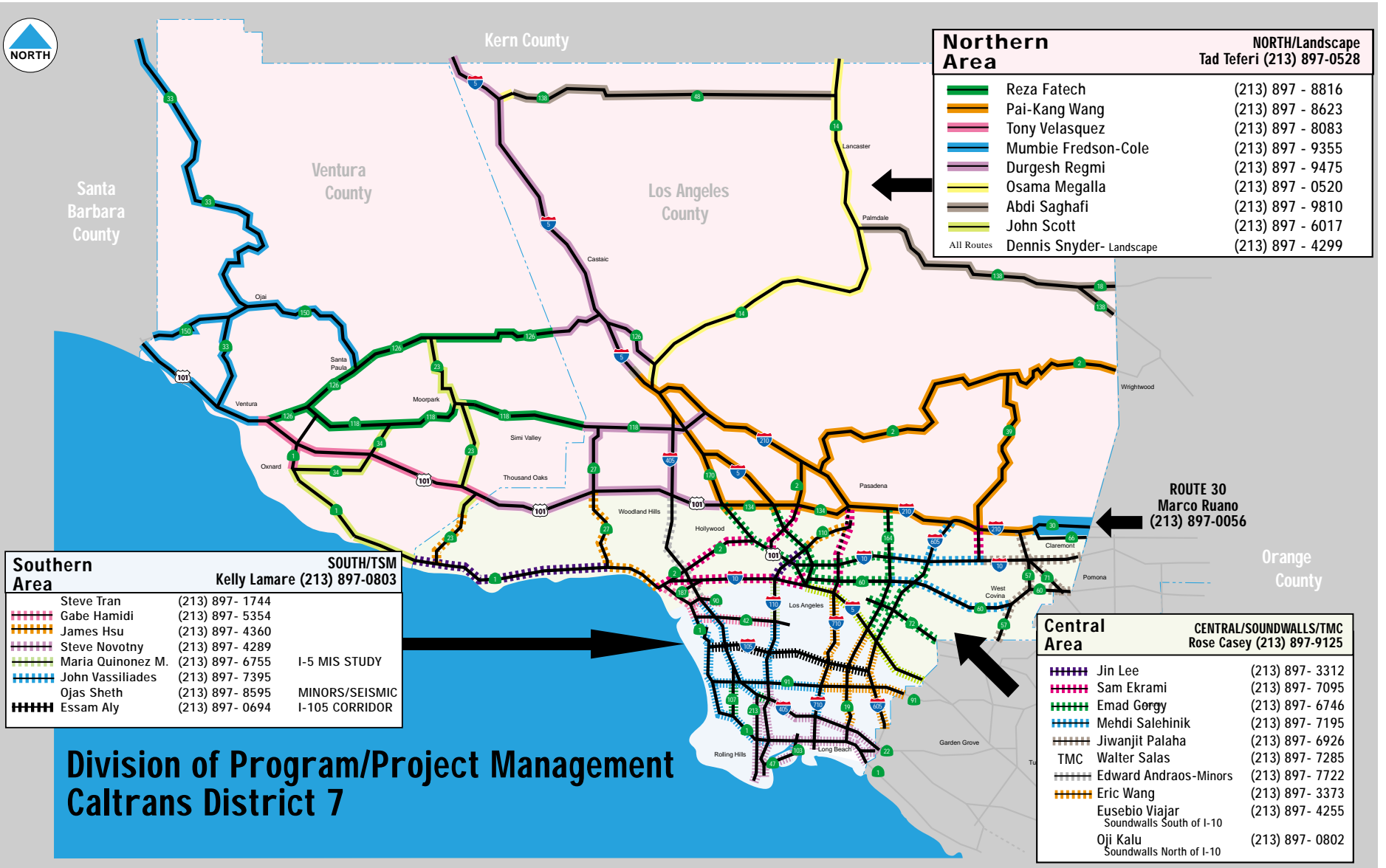
traffic investigations and analysis supervisor and acting branch chief.

A promotion to Senior Transportation Engineer brought him back to District 7 in the Project Development Branch, where he worked for 18 months preparing Plans, Specifications & Estimates for several projects, including the final stage of the SR-118/SR-23 connector and the widening of Interstate 5, as well as other rehabilitation projects.

In January of 1992, Mitwasi was promoted to chief of the high-profile HOV Branch. In that capacity, he represented Caltrans with several agencies, including the Los Angeles County MTA, Orange County Transportation Authority, Federal Highway Administration, Southern California Association of Governments (SCAG) and San Bernardino Associated Governments.

Mitwasi is a voting member and District representative of the Transportation Communication Committee and Goods Movement Advisory Committee of SCAG, and represents Southern California on the Transportation Research Board. In 1994 he helped organize the TRB's 7th International Conference on HOV Systems, which was held in Los Angeles, and has been a panelist for the National Research Council in Washington, D.C.







BOB DENNIS

DIVISION CHIEF OF RESOURCE MANAGEMENT

Bob Dennis, Division Chief of Resource Management for Los Angeles-based District 7, oversees 75 employees and annual personnel and operating budget of \$7.27 million.

Dennis assumed his present position with District 7 in July 1996. Prior to joining District 7, he served as the Department's Contracts Officer in its Sacramento Headquarters.

Dennis held the position of Facilities Manager in the Sacramento Headquarters. He also served as Business Manager, and Manager of Computer Services for Caltrans District 8 in San Bernardino.

He first began working for Caltrans in 1973 as Chief of Manpower Planning in the Headquarters Personnel Office. Dennis earned a Bachelor of Arts degree from Sacramento State College in 1969, and he received his Master's of Public Administration degree from California State University, San Bernardino in 1989.

He is a member of the American Society of Public Administration.

DISTRICT 7 MAJOR AWARDS

District 7 Major Awards

- 2000: Excellence in Transportation Major Structures (Urban), I-110 Harbor Freeway HOV Viaduct.
- 2000: Excellence in Transportation, Historic Preservation/Cultural Enhancement, Olympic Blvd. Bridge.
- 1999: Historical Preservation and Cultural Enhancement of the Adams-Figueroa Historic District.
- 1999: Excellence in Transportation, Harbor Transitway Inter-modal Facilities, Project, Harbor Freeway (I-110) Transit Stations.
- 1999: Excellence in Transportation Major Structures Rio Hondo Busway Bridge Retrofit Project.
- 1999: Southern California Association of Governments 25th Anniversary Rideshare Diamond Award.
- 1999: Governor's Employee Safety Award, Gary George, Caltrans Electrician II Outstanding Heroism.
- 1999: National Historic Civil Engineering Landmark, Arroyo Seco Parkway was designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers.
- 1999: FHWA Award, Striving for Excellence, Team Award, Long Beach Freeway (710 Gap Closure Project and Record of Decision.
- 1999: Los Angeles County Fair Green Ribbon, Most outstanding use of a Multiple Space Area at the Los Angeles County Fair.
- 1999 -Tranny Award-Special Program Recognition, Century community Children's Center.
- 1997: Excellence in Transportation, Category 1, Inter-modal Transportation, Project, Metro Red Line, Wilshire Extension.
- 1997: Excellence in Transportation, Category 1, Inter-modal Transportation, Project, Harbor Freeway Transit Center.
- 1997: Excellence in Transportation, Category 6, Systems Operations Project, Santa Monica Freeway Smart Corridor.
- 1997: Excellence in Transportation, Category 8, Safety Project, Traffic Safety Program, Ventura
- 1997: Excellence in Transportation, Category 10, Cultural Enhancement Project, Douglas/Rosecrans Station, Metro Green Line
- 1997: FHWA Environmental Excellence Category, Community Cohesion Project, Calabasas Creek Park

- 1996: Director's Water Conservation Award Category, Water Management Project, Century Freeway Landscape Irrigation
- 1996: Excellence in Highway Design Category 1, Urban Highways Award of Merit Project, Interstate 105/110 Interchange Project
- 1996: Excellence in Transportation Category 1, Inter-modal Transportation Project: Real Time Traffic Info on the Internet
- 1995: Excellence in Transportation Category, Landscape Design Project: Diamond Bar Reforestation (SR-60)
- 1994: Director's Water Conservation Award, Category, Landscape Project, Diamond Bar Reforestation (SR-60)
- 1994: Tranny Award Category – Joint Asset Management, Project, Century Freeway Housing Project, Casa Loma
- 1992: Excellence in Highway Design, Category, Reconstruction, Rehabilitation , and Cost Savings Project, Glen Anderson Freeway (I-105)

SOUNDWALLS

In 1973-74, State and Federal agencies adopted formal policy and criteria for construction of noise barriers. California leads the nation in both completed and planned soundwalls. About 400 miles of walls have been completed.

There are three basic programs under which CALTRANS may undertake soundwall construction:

1. As part of a new freeway project
2. As a part of a freeway widening project
3. Under the Community Noise Abatement Program

The most frequent requests fall under the Community Program. Typically, the request is to build a soundwall on an existing freeway to shield adjacent residences from freeway noise.

The immediate key questions that need to be answered are:

1. Does the area qualify? If yes...

In order for the area to qualify, it must meet all of the following criteria:

- a. Residential property built prior to the freeway or prior to a major widening.
 - b. Has hourly noise levels that exceed the 67-decibel (Leg) threshold
 - c. Must be able to achieve at least a 5-decibel reduction
 - d. Cost does not exceed \$35,000 per residential unit (1987 dollars)
2. When will it be built? If not soon...

Normally, engineering and construction scheduling are not a problem. However, the availability of funds is usually the major stumbling block, which generally means waiting.

3. Where does it stand on the waiting list?

Because the demand for soundwalls has far exceeded the funding to build them, a priority waiting list has been developed. This waiting list is based on a formula, which combines noise levels, number of living units and cost effectiveness to produce a ranking.

COSTS AND DESIGN FEATURES

Total Cost:	Averages about \$450 per lineal foot or \$2.3 million per mile.
Type of Wall:	Usually reinforced concrete, reinforced concrete block or combination earth mound/wall,
Footings:	Trench, spread or pile footings are used as appropriate.
Typical Height:	8 to 16 feet, depending on specific design needs.
Aesthetic Treatment:	Decorative concrete block, e.g. color split face, slumpstone, fluted is used.
Engineering of Plans:	Typically 12 months,
Construction Project:	Typically 12 months.

FUNDING METHODS

Traditional Financing

The California Transportation Commission is the approving body for program and project level funding. Recent legislation (SB 45 - STIP Reform) may have an impact upon the programming of soundwalls. During the implementation of SB 45, Caltrans works closely with the Los Angeles County Metropolitan Transportation Authority (LACMTA) and the California Transportation Commission (CTC) to program soundwall projects along with various other transportation needs.

Soundwalls, which come under new or major reconstruction projects, are automatically included as a part of the project design. Soundwalls, which are retrofitted to existing freeways, fall under the Community Noise Abatement Program. Under Commission policy, this program is subject to available funding. Since funding is limited, a priority list has been developed to rank future projects.

Payback Option

State law allows cities or counties to construct eligible soundwalls ahead of the time that they would be built under traditional funding. Then, when the funding priority is eventually reached, CALTRANS would reimburse the local agency for the actual cost. Its important to note that reimbursement does not include interest.

Benefit Assessment District

Some local agencies are considering a benefit assessment district whereby residents in effect tax themselves under some formula to generate funding. Under this method bonding could be used for early construction at the expense of a longer payback.

Special Legislation

Soundwalls have occasionally been funded and constructed by Special State legislation. These have occurred outside of CALTRANS' and the California Transportation Commission's process.

TYPICAL QUESTIONS

Q. How does my area qualify for a soundwall?

A. The two key factors under the Community Noise Abatement Program are:

- a. The residential area existed prior to the freeway opening date or major reconstruction completion.
- b. Outside noise levels exceed 67 decibels (Leg)

Q. Why is the 67 decibels (Leg) level so important?

A. This is the noise level established by Federal and State agencies, which must be exceeded before impacted neighborhoods are eligible for mitigation.

Q. What does Leg mean?

A. It is the steady noise level equivalent to fluctuating traffic noise over a given period of time.

Q. When are noise levels usually measured?

A. In the greater Los Angeles Area our studies have shown that the highest noise measurements usually occur between 9:00 a.m. and 3:00 p.m. and not at peak congestion times.

Q. Why aren't noise measurements taken during the peak congestion time?

A. Traffic noise is speed related. i.e., as vehicles move faster; they produce more noise. Likewise, when traffic is stop-n-go or at low speeds, noise levels are also lower.

Q. Why does it seem noisier late at night and early morning?

A. Due to the fact that the surrounding area is quieter at these times, the masking effect of other noise does not screen the freeway noise. This usually makes the freeway noise more prominent but lower than the midday level.

Q. Why are noise measurements taken for only ten minutes?

A. Our measurements on heavily traveled roads have shown that a ten-minute period is sufficient to reliably reflect an hourly noise level.

Q. Why is there a soundwall on the other side of the freeway or just down the road and not in my area?

- A. There are many factors which affect noise levels even when traffic volumes are the same. These differences usually happen when the terrain changes the freeway curves in a different direction the freeway elevation changes from above to below ground level. Also developers of the adjacent property have sometimes constructed soundwalls.
- Q. Why can't you place a soundwall to protect our area from cars running off the freeway?
- A. Soundwalls are not intended to act as safety barriers. There are other reliable methods used such as installing guardrails to protect against vehicles running off the road. All improvements, whether to reduce noise or enhance safety, have to meet specific criteria and be justifiable on their own merits. Cost is always a factor.
- Q. Why are soundwalls built to protect commercial property in some locations?
- A. Commercial property in itself is not eligible for soundwall protection. However, when designing a wall in a particular location safety, aesthetics or continuity will sometimes dictate gap closures, which can end up protecting non-eligible property. Also in some instances, the walls were privately funded.
- Q. Are soundwalls required by Federal, Caltrans, and/or City offices?
- A. As part of the general environmental review process associated with all projects, Caltrans is required to evaluate traffic noise impacts. Impacted areas are considered for noise mitigation, by implementing noise abatement when reasonable and feasible.
- Q. What is "decibel energy" and how is it accurately measured?
- A. Decibel Energy is the relative intensity of sound defined on a logarithmic scale. The unit of measurement for sound intensity is the decibel (dBA) as measured on the "A" scale of a standard Sound Level Meter. The "A" scale most nearly approximates the response of the human ear to sound. While an increase of 2 or 3 dBA may be hardly noticeable, and increase of 10 dBA doubles the apparent noise level.

SOUNDWALLS PRESENT STATUS

The Soundwall program is comprised of two elements, the May 89 Retrofit Soundwall list and the Post May 89 Soundwall list.

May 89 list

The District has forty-two (42) projects remaining from the May 3, 1989 Retrofit Soundwall List at a total estimate of approximately \$187 million including engineering support, right of way, and construction costs.

The California Transportation Commission (CTC) adopted \$ 170 million statewide (estimated statewide total cost is \$226 million) through the 2000 STIP Fund Estimate for the capital and support costs at the August 1999 CTC meeting. These projects are programmed to be delivered in the 2001 to 2005 fiscal years. Funding for the remainder of the projects (\$56 million) will be programmed through the 2002 STIP and will be completed by the 2007 fiscal year.

The project delivery schedules and workplans were established at the end of December 1999 and are currently being incorporated into the statewide Soundwall delivery program.

Post 89 list

Under Senate Bill 45 (SB45), the Los Angeles County Metropolitan Transportation Authority (MTA) has the funding responsibility for the Post 89 Soundwall list. MTA Board has adopted the Soundwall Implementation Policy at its regular Board meeting on January 27, 2000. This Policy includes revised criteria for ranking the Post 89 soundwalls and was developed by MTA in consultation with Caltrans. As proposed in the Soundwall Implementation Policy, highest consideration will be given to "Phase I" Post 89 HOV Retrofit soundwall projects which are located along freeway segments where HOV lanes were constructed but warranted soundwalls were not constructed as part of the HOV project. The remaining soundwall projects identified to date would be designated as "Phase II" Post 89 soundwalls. In MTA's policy approved at the April MTA Board meeting and released on April 20, 2000, MTA plans to exchange \$34.8 million in State Transportation Improvement Program funds for Prop C 25% monies. This will allow MTA to begin the Project Initiation Documents and begin the Design process for the "Phase I" Post 89 HOV Retrofit soundwall projects. MTA plans to contract this work to private consultants. Therefore, any future inquiry regarding scheduling and funding should be directed to MTA.

Retrofit Soundwalls are prioritized based on a formula, which considers the existing noise level, the anticipated noise reduction, the number of residential units impacted and the projects estimated cost.

DISTRICT 7 Los Angeles & Ventura Counties

Soundwall Status

- Oji Kalu (213) 897-0802
Soundwalls North of I-10
- Eusebio Viagar (213) 897-4255
Soundwalls South of I-10

LEGEND

- Existing Soundwalls
- HOV Soundwalls
- Post May 3rd '89 Candidate List

HIGHWAYS Traversable State Highways

5 INTERSTATE 101 U.S. 39 STATE

0 1 2 3 4 5 6 7 8 9 10 Postmiles

AIRPORTS
Commercial Military Port

SCALE
MILES 0 5 10 15
KILOMETERS 0 5 10 15

MANAGING TRAFFIC

District 7 - Transportation Management Center

In Los Angeles, the California Department of Transportation (Caltrans) District 7 has implemented one of the largest Advanced Traffic Management Systems (ATMS) in the country, as part of its Intelligent Transportation System (ITS). Included with this system implementation was a recently completed project to upgrade the Transportation Management Center (TMC) located in downtown Los Angeles. This high-technology facility is the product of Caltrans, partnering with the transportation consulting firm-National Engineering Technology (NET) Corporation and the architecture firm-Holmes and Narver, with numerous traffic, architect, electrical and software engineers working closely together to design a comprehensive transportation management center. This center was built with the basic idea of managing freeway traffic to achieve the goal of reducing traveler commuting times, maximizing roadway capacity, and in the end providing a safer traveling medium for the general public. This center currently acts as the nucleus of the traffic operations system in California's Los Angeles and Ventura Counties.

The TMC was created to support Caltrans and California Highway Patrol (CHP) functions, which are necessary to efficiently manage traffic in the Los Angeles and Ventura Counties. These functions include the following:

- TMC Operations
- California Highway Patrol (CHP)
- Freeway Service Patrol (FSP)
- Caltrans Communication Maintenance Dispatch
- The District 7 Intelligent transportation System (ITS) utilizes an extensive network of ITS elements installed on over 500 miles of freeway within District 7. An extensive fiber optic and wireless communications network is being utilized to link all of these field elements with the upgraded TMC. The ATMS software currently utilized in the TMC has been designed to communicate and control all of the elements, which are described below.
- The TMC receives information from over 1225 ramp metering and vehicle detector station controllers. These controllers collect data related to traffic volumes and occupancies from over 20,000 vehicle detectors installed in the freeway ramp and mainline lanes. This data is used to calculate average vehicle speeds throughout the freeway system. The TMC ATMS software utilizes this traffic data in incident detection algorithms to determine the location of traffic incidents such as motor vehicle accidents, disabled vehicles and non-recurring congestion. This system enables TMC operators to identify trouble points on the freeway system almost as soon as they occur.
- From the TMC, there are currently over 231 closed-circuit television cameras installed adjacent to the freeway that are used to verify and manage traffic incidents and for general traffic surveillance purposes. From the TMC, operators can control the pan, tilt and lens zoom functions of the CCTV camera in order to move the camera to the precise viewing area that is required. This is made possible through the TMC's CCTV interface software developed for this project. There is over 300 additional cameras either currently under construction or planned for construction to support the traffic operations system.
- There are 104 changeable message signs (CMS) in the district, which are controlled by the TMC. These CMS's are illuminated roadway signs installed on the freeway, which display remotely transmitted text me

sages from TMC to motorists regarding freeway traffic conditions and incidents. Their purpose is to (1) reduce the number and severity of accidents and (2) give motorists information regarding the incidents and possible alternate routes which can be taken when incidents do occur. Ultimately, over 108 signs will be installed across the District.

- There are nearly 860 freeway on-ramps in the district, which have active ramp metering. These ramp-metering stations (RMS) use traffic signals and data from vehicle detectors to regulate the pace of traffic entering the freeway, therefore achieving the maximum efficiency of traffic movement on the freeway. From the TMC, operators can remotely turn ramp metering on and off as well as change current metering rates and modes dependent on current traffic condition along the effected freeway segment.
- From the TMC, operators can control highway advisory radio (HAR) systems. These HAR systems are short range 10-watt broadcast radio transmitters installed within freeway right-of-way for the purpose of relaying detailed information regarding traffic conditions to motorists. HAR messages are advisories pertaining to traffic incidents, construction activities, traffic diversions, and road conditions, safety conditions, alternate routes and other messages, which typically are too wordy for CMS displays. Twenty-seven HAR sites are planned for installation in the district.

TMC Upgrade Design

The TMC upgrade design project consisted of two integrated activities:

1. Design of the TMC facility
2. Design and implementation of the ATMS, which includes development of the custom, control center software.

Facility Design

The TMC facility design included the renovation of 13,420 square feet of the Caltrans District 7 office in downtown Los Angeles at a total construction cost of \$3.2 million. The center supports various operational functions, which aside from the transportation management function it is the center of operation for the California Highway Patrol (CHP), Freeway Service Patrol (FSP) dispatch operation by both Caltrans and CHP, and Caltrans maintenance dispatch. The center was designed to support 24-hour-a-day operations, 365 days a year and contains complete kitchen, restroom and locker room facilities to support these round-the-clock operations. The facility was designed with uninterruptable power supply (UPS) and back-up generator systems to maintain electrical power for all computer and communications systems hardware in the center during any unforeseen power outages.

One of the unique features of this center is the conversion of a 40 year building facility to provide the state-of-the-art TMC computer and LAN communications systems, which support the advanced transportation's management system. These systems were designed to be totally fault tolerant so that any single hardware failure to the computer or local area network (LAN) hardware would not cause systems operations to cease. The computer system hardware specifications includes two of each of the major system components, i.e. primary and back-up ATMS applications servers, Oracle database servers, front end processors (FEP), LAN routers, LAN switches and fiber distributed data interface (FDDI) concentrators. The computer system includes 200 Gigabytes of hard disk storage to hold the ATMS application and configuration database as well as 1.75 terabytes of storage across three optical jukeboxes for the sole purpose of storing over a year's worth of historical traffic data. All TMC computer and communications hardware is located in an environmentally controlled computer room protected by a high-tech inert gas fire suppression system. Figure 2 below is the logical network diagram for the TMC ATMS computer system.

ATMS Software Design

This section describes the ultimate District 7 ATMS functionality. The innovative software design created by NET includes an Open System Architecture to ensure:

- Interconnectivity (ability to connect and communicate to other systems without a third party proprietary black box)
- Interoperability (seamless access to distributed data across all open platforms and software products)
- Portability (software written for one district can be easily transferred to others)
- Reduced Costs (software and hardware product costs are lower due to multiple vendor support and increased competition)

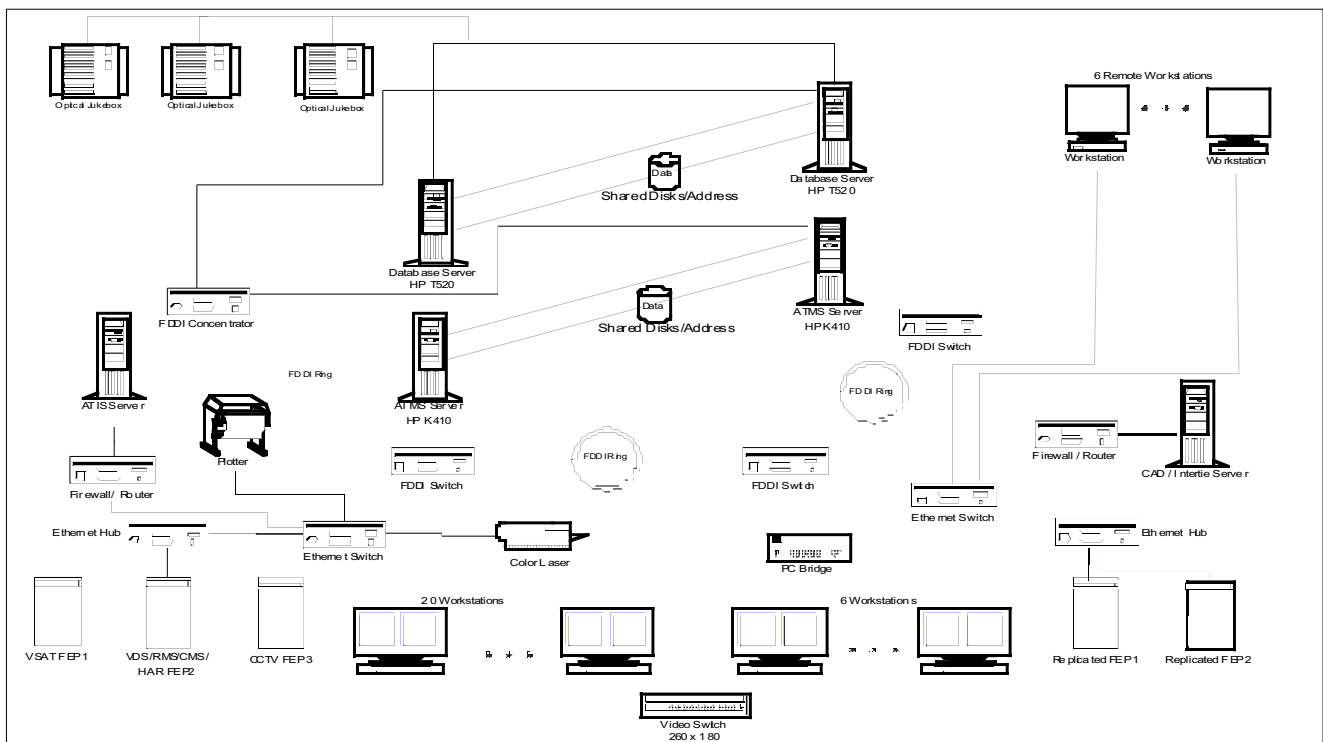


Figure 2 - District 7 ATMS Network Configuration

Software Architecture

The ATMS system is a UNIX-based system running on dual-headed HP workstations. The software includes:

- HP UX 10.20 operating system
- SL GMS V5.4 to create map interfaces
- Oracle Version 7.3.4 database to store historical and configuration data
- Oracle Forms & Reports
- G2 real-time expert system to generate response plans
- Talarian Smartsockets middleware for data acquisition and interprocess communications
- Various application programs in C programming language

The TMC software architecture consists of four major partitions: 1) communication, 2) user interface, 3) database, and 4) applications. Figure 3 depicts these partitions. Generally speaking, the communication partition moves information to and from the freeways/highways into real-time traffic management operations and into long term storage for historical analysis.

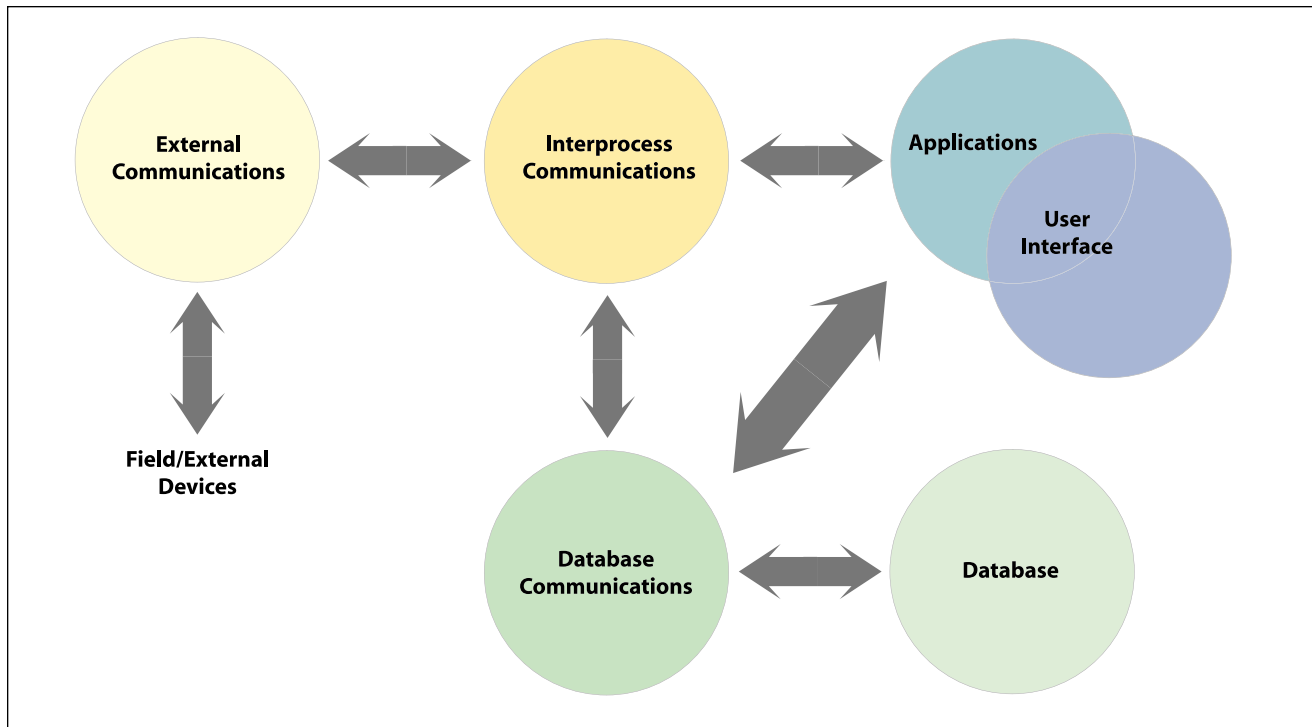


Figure 3 - Software Partitions

Communications

The TMC communications moves data between field / external devices and the TMC applications in an orderly and efficient manner. Internal movement of TMC information for time critical operations is called the “inter-process communication” and the movement of non time critical information such as data storage / retrieval is called the “database communication”. System functions require both real-time and data storage software components for simultaneous users and events. Database communications follow the SQL standards. The TMC external communication handles interfaces to the field equipment and external systems. Just as the TMC interprocess communication is a real-time process, so is the TMC external communication. Information movement to and from field devices must meet strict timing requirements; for example, all VDS controllers must be polled with one timing cycle and camera control receivers must have 1 millisecond updates during panning. The software component for TMC external communication is a real-time component.

User Interface

The user interface partition receives and sends data via both the interprocess and database communications. Real-time data is displayed as it is received from other applications, and configuration data (non real-time) is displayed as it is received from the database. The user interface is a Graphical User Interface (called GUI) and is required to have maps, dialogues, graphs / charts, and reports capabilities. Software components for the GUI follow the Motif standard and present data in an intuitive user-friendly manner for both screen and hardcopy. In traffic management, geographical information is crucial and therefore map displays provide the backdrop to events and responses. For map display capability, SL-GMS graphical tools were selected and for the database of map information, the Thomas Brothers Maps for LA and Ventura Counties were selected. Dialog windows provide the user with information and a means of entering operator choices.

Database

The database partition receives and sends data via the database communication. The database consists of three kinds of data: 1) configuration, 2) traffic flow, and 3) event. Configuration data is the static and status data that defines the freeway/highways and field devices. CMS locations, their type, failures, and operational status are examples of configuration data. Traffic flow data is the historical flow of traffic freeway consisting of volumes, occupancies, and estimated speed. Event data is the data generated by system events including incidents, congestion, special events, and user actions. Configuration, traffic flow and event data are fixed in format and size and therefore well suited for the table structures of a relational database.

Applications

The application partition receives and sends data via the interprocess and database communications. Applications are either developed or non-developed. Developed software is designed, coded, and implemented, while non-developed software is any commercial off-the-shelf product. TMC Applications can be grouped into four broad categories : 1) Advanced Transportation Management System (ATMS), 2) Advanced Traveler Information System (ATIS), 3) Data Analysis, and 4) Data Acquisition. A requirement unique to the ATMS application is the element of decision support for the TMC user. Decision support is normally implemented through the use of an expert engine, which operates upon a knowledge base designed for the application. The decision support expert engine selected for the ATMS design is Gynsum G2.

ATMS SOFTWARE FEATURES

Described below are the ATMS software capabilities. Certain aspects of these features are currently under design; however, the current ATMS software used in the TMC provides the foundation for all functionality listed below.

Geographical Map Display

The ATMS software system includes a geographical map display that covers the entire Los Angeles and Ventura County freeway network, with a zoom capability that allows the operator to zoom down to the city street level. Various map filters are available to allow operators to customize their individual map displays.

Real-Time Traffic Data

A graphical representation of freeway traffic flow conditions is provided through color-coded VDS data that represents real-time volume, occupancy or estimated speed. Data is updated every 30 seconds, and is also readily available in numerical format on a lane-by-lane basis.

Icon-Based Control/Access

Much of the system data can be accessed from the graphical user interface through icons. The geographical display map includes unique icons representing RMS, CMS, VDS and CCTV locations, providing data access and control capability directly from any workstation simply by clicking on the appropriate icon on the map.

The CCTV subsystem is fully integrated into the operator workstation, requiring no external equipment for CCTV selection and control. By clicking on CCTV icons on the graphical display, the operator can retrieve up to two real-time CCTV cameras on the workstation. Full pan, tilt, and zoom control are available directly from the user interface. An attractive feature of the ATMS is its ability to automatically provide to the operator real-time CCTV images of cameras located in the vicinity of a suspected or confirmed incident.

CMS control is also available directly through the ATMS software. Operators can compose new messages, edit system-recommended messages or change phasing parameters directly from the user interface.

Unique icons for incidents and special events are also displayed. By selecting an icon, the operator enters into system dialogue that allows event verification, definition of and updates to event details access to system-generated response plans and termination of cleared events from the system.

Figure 4 depicts the main ATMS application GUI, illustrating the geographical map display with various icons representing TOS field equipment.

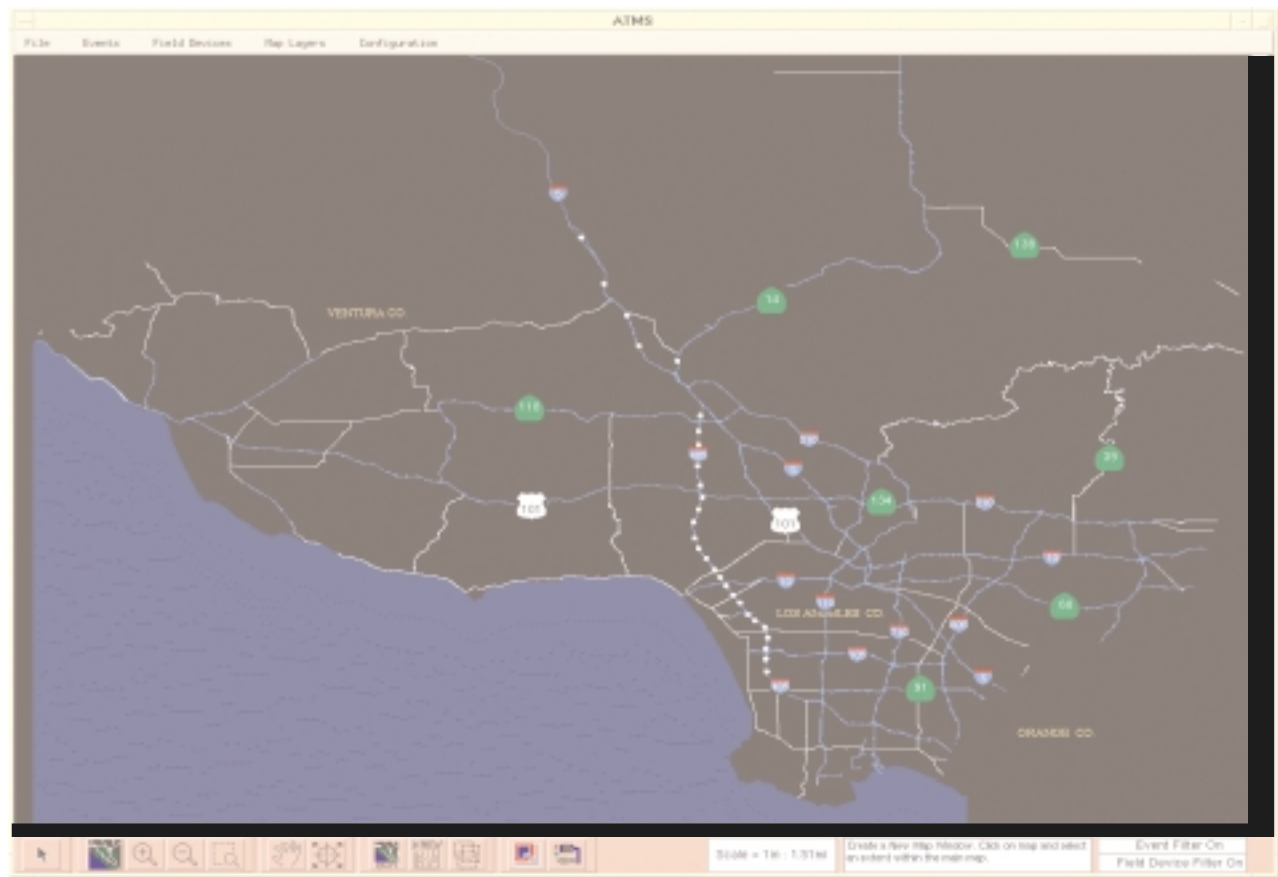


Figure 4 - ATMS Graphical User Interface

Ramp Metering Control

The District 7 ATMS software allows operators to activate and deactivate ramp metering anywhere in the freeway system. One of the more advanced features of the ATMS software is the ability to select different metering modes, which includes different levels of System-Wide Adaptive Ramp Metering (SWARM). One example of SWARM level is SWARM 1, which looks at the complete freeway system, forecasts traffic conditions into the future and changes ramp metering rates across the system to avoid predicted future problems.

Automatic Incident Detection

The system features automatic incident detection through the use of APID - the All-Purpose Incident Detection algorithm, an algorithm, which is, based on the California incident detection algorithms, and which has been designed to handle various traffic patterns. The system is capable of running 5 incident detection algorithms in parallel, and algorithms can be activated/deactivated from the user interface. The user through the user interface also easily defines algorithm parameters.

Automatic Response Plan Generation

Response plans are a series of actions that are recommended to an operator to help mitigate the impact of a traffic event or condition. Automatic response plan generation is a key feature of the ATMS, which provides a decision

support system for ATMS operators. By providing recommendations to the operator on which actions should be taken under the prevailing conditions, operator overload in this time-sensitive environment can be prevented, and consistency in responses can be better ensured.

The Caltrans District 7 ATMS will automatically generate response plans based on event attributes such as location, event type, lane blockage pattern, estimated duration and number of fatalities and injuries. Response Plan components may include recommendations to:

- activate recommended CMSs with recommended messages
- request CHP to issue a SigAlert
- issue a traffic advisory
- advise Traffic Management Team (TMT) Leader
- alert Caltrans organizations
- advise maintenance personnel
- dispatch the Freeway Service Patrol
- contact the TMC supervisor
- notify the duty officer
- put incident details on the Caltrans Highway Information Network (CHIN)
- advise local agencies
- advise adjacent districts

As incident details change, the operator enters the updated data into the system, and an updated response plan is generated. When an incident has been cleared in the system, a termination plan may be recommended in which termination actions are recommended, such as replacement message recommendations for CMSs.

To generate response plans, an expert system will be implemented in District 7's ATMS.

Expert Systems

An Expert System is a “model and associated procedure that exhibits, within a specific domain, a degree of expertise in problem solving that is comparable to that of a human expert.” Real-time expert systems can be used for complex applications that require continuous and intelligent monitoring, diagnosis, and control, which make them well suited for integration in a transportation management system for use in response plan generation.

The primary advantage of using expert systems in developing response plans is that manual development of pre-defined plans is not required. Given the freeway network, the Traffic Operation System (TOS) element configuration and a knowledge base that defines the traffic response plan requirements, the system will generate plans accordingly, easily adapting to modifications to freeway network configuration and field equipment location. For many transportation agencies for whom field infrastructure changes are a way of life, the use of an expert system eliminates the need for extensive plan revisions to keep the response plans current.

A second advantage of expert systems is the ability of the system to perform numerous computations quickly. The Caltrans ATMS expert system performs a number of complex computations to arrive at the required response plan based on event details defined by the operator.

High Occupancy Vehicle (HOV)

Program Update Los Angeles County

In Los Angeles, HOV lanes exist on the freeway, and almost half of the metered freeway on-ramps. Motorists using the HOV lane on the on-ramps do not have a stop at the ramp meter, which is another incentive to rideshare. HOV lanes for bus use only, exist on some local streets.

By the end of 1999, HOV lanes made up 35% of the total freeway length in Los Angeles County, Which has a total of 527 freeway miles. Los Angeles County had 185 centerline miles, or 377 lane miles of HOV. In total Los Angeles County opened 30 centerline miles of HOV lanes in 1998 and 17 centerline miles in 1999. The southern California region of 5 counties (Los Angeles, Ventura, Orange, San Bernardino, and Riverside) was reporting a total of 321 HOV centerline miles or **650 lane miles**, excluding the Route 91 Toll Road in Orange County, which is 40 HOV lane miles. Statewide, California had **810 HOV** lane miles

The following is a list of the new HOV facilities, in Los Angeles County, which opened in 1998 and 1999:

- In February of 1998, 7.6 miles of carpool lanes opened on the San Diego Freeway (Route 405), between the Orange County Line and Route 710.
- In April of 1998, 9.9 miles of carpool lanes opened on the San Gabriel River Freeway (Route 605), between Telegraph Road and Route 10.
- In May of 1998, 6.4 miles of carpool lanes opened on the Antelope Valley Freeway (Route 14), between San Fernando Road and Sand Canyon.
- In October of 1998, 6.1 miles of carpool lanes opened on the San Diego Freeway (Route 405), between Route 710 and Route 110.
- In February of 1999, 2.4 miles of carpool lanes opened on the Pomona Freeway (Route 60), between Route 57 North and the San Bernardino County Line.
- In September of 1999, 9.9 miles of carpool lanes opened on the Antelope Valley Freeway (Route 1), between Sand Canyon Road and Escondido Canyon Road.

Freeway Service Patrol (FSP)

The Metro Freeway Service Patrol (FSP) is a joint program provided and paid for by the Los Angeles County Metropolitan Transportation Authority, Caltrans, and the California Highway Patrol.

The FSP tow trucks help reduce traffic jams by quickly clearing stalled cars which cause the majority of traffic congestion. FSP also helps reduce the chance of further accidents and bottlenecks caused by impatient drivers and gawkers. In addition, FSP helps save fuel and cuts air polluting emissions by reducing stop-and go traffic.

Metro FSP services include:

- Changing flat tires
- Jump-starting cars
- Refilling radiator and taping leaky hoses
- Putting a gallon of fuel in gas tank
- Towing disabled cars to designated drop zones

The FSP service covers the Los Angeles region's most heavily traveled sections of freeway during peak commuting hours. Service is provided Monday through Friday from 6 a.m. to 10 a.m. and from 3 p.m. to 7 p.m. on all most all freeways. Special coverage of downtown Los Angeles is continuous between the hours of 6 a.m. and 7 p.m., and weekends services from 10 a.m. to 6 p.m.

Connector and Ramp Meters

Ramp meters are a familiar sight to California motorists, having made their debut in 1966 at the intersection of Routes 5 and 14, in northern Los Angeles County. Since then, the ubiquitous signals at urban on-ramps have helped regulate the smooth flow of vehicles on to the freeway and thereby ensure that freeways operate at maximum capacity. Today, more than 1,600 ramp meters are in operation statewide.

Recently, the concept of connector metering has been expanded to help alleviate congestion at freeway interchanges, which have traditionally experienced some of the worst congestion on the freeway system. Freeway-to-freeway connector ramp meters were first put in use in 1976, along the Santa Monica freeway, from the southbound Harbor freeway to the westbound Santa Monica freeway, as part of a diamond lane experiment. In 1992, a freeway-to-freeway connector ramp meter was installed in Los Angeles County at the transition from southbound Route 5 and southbound Route 110.

The Glenn Anderson (I-105) Freeway is the first freeway to employ connector ramp metering on full interchanges. The connectors were designed to provide adequate storage. These signals, in some cases, employ the traditional red-amber-green signalization typical of local street intersections, rather than the red-green lights more common on on-ramp meters.

Connector ramp meters are in place at four interchanges along Interstate 105: at the San Diego (I-405) Freeway, the Harbor (I-110) Freeway, the Long Beach (SR-710) Freeway and the San Gabriel River (I-605) Freeway. Flashing overhead warning signs will alert motorists that the meters are ahead as they make the transition from one freeway to another. Sensors embedded in the pavement are linked to computers, which will adjust the meters automatically to optimize the movement of traffic through the interchange.

As with on-ramp meters, stopping cars momentarily at connector ramp meters can save motorists several minutes per trip because overall congestion is reduced.

Smart Corridor

The Santa Monica Freeway Smart Corridor (I-10) is one of the most visionary Intelligent Transportation Systems (ITS) project ever developed and implemented in the nation. The project officially became operational during a kick-off ceremony held on October 11, 1996, at the Los Angeles Public Library. The project represents a first-time attempt to electronically connect and coordinate freeway and arterial data gathering, develop and implement computer generated action plans, and provides motorists with accurate, real-time congestion information within a corridor.

At present, the project covers a 14.5-mile stretch of the Santa Monica Freeway (I-10), one of the most heavily traveled freeways in the nation, as well as five parallel arterial streets (Washington, Adams, Venice, Pico and Olympic Boulevards) located in the cities of Los Angeles, Culver City and Beverly Hills).

The fundamental goal of the Smart Corridor system is to increase the efficiency and throughput of the existing freeway and adjacent surface street network thereby reducing roadway congestion and motorist delay.

To achieve this goal the project relies on a three-pronged approach:

- Maximizing the efficiency of the existing traffic control systems operated by Caltrans, LADOT, and CHP through coordinated database and “expert systems” software.
- Providing timely and effective incident/accident management
- Providing accurate, real-time traffic information through a variety of motorist information methods.

Some of the elements and techniques used are:

- Development and utilization of coordinated and integrated software to provide automated freeway and arterial incident detection, correlation and confirmation as well as multi-agency database development and response plan generation.
- Detectorization of the freeway and arterial streets for automated monitoring and dynamic modification and coordination of ramp metering rates and signal timing plans.
- Utilization of automated motorist information system elements such as Highway Advisory Radio, Highway Advisory Telephone, Changeable Message Signs, dynamic routing Trailblazer signage, computer

bulletin boards and cable television.

- Provision of Accident Investigation Sites (AIS) which provide a separate and secure area where motorists can exchange information in the event of an accident.
- Provision of emergency response teams and roving service patrols, which assist in removing disabled vehicles.
- Provision of comprehensive Closed Circuit Television (CCTV) coverage, which enables agency personnel to dynamically view conditions on the freeway and arterial streets.

The significance of this project to the region is the unprecedented level of interagency and cross-jurisdictional coordination and support.

The following agencies are directly involved in the development and operation of the Santa Monica Freeway Smart Corridor Project:

- The Federal Highway Administration (FHWA)
- The California Department of Transportation (Caltrans)
- The California Highway Patrol (CHP)
- The Los Angeles County Metropolitan Transportation Authority (LACMTA)
- The Los Angeles Department of Transportation (LADOT)
- The Los Angeles Police Department (LAPD)
- Culver City
- Beverly Hills
- Santa Monica

The total cost of the project is approximately \$48 million, which was provided through federal, state and local sources.

The 1984 Olympic games held in Los Angeles served as a precursor to this project by demonstrating that coordination of the system of the local operating and enforcement agencies could actually increase throughput and decrease delay, even in light of heightened traffic congestion. To this end, after the Olympics, the Smart Corridor agencies pooled their resources and developed a system which through the development of customized software, would automatically provide coordinated field data and recommend and implement appropriate response for all agencies on the same network. This represented a first time attempt on the part of the operating agencies to share their data and responsibilities for a roadway network.

The success of the vision of the Smart technologies was tested during the 1994 Northridge earthquake, which rendered a portion of the Santa Monica Freeway (I-10) unusable. The unprecedented level of cooperation and coordination among the agencies and the implementation of preliminary Smart Corridor facilities and software, which eased traffic congestion, was a testament to the anticipated success of the project.

The Smart Corridor Project is a work in progress. The first phase became operational on October 11, 1996. The second phase, which includes activation of the traffic management center in the city of Santa Monica and other features, will come on board at a later date.

The Santa Monica Freeway 'SMART' Corridor



PROJECTS THROUGH THE MILLENNIUM

Los Angeles Regional Transportation Management Center (LARTMC)

In July of 1993 Caltrans and CHP signed the TMC Master Plan which called for development of TMC's to be co-located with CHP Communication centers. The TMC would have the ability to monitor and control various Traffic Operations Systems (TOS) field elements (Highway Advisory Radio, Changeable Message Signs, Traffic Monitoring Stations, Closed Circuit Television Cameras and Ramp/Connector Meters). The TMC will serve as a hub for all transportation management activities for the entire southern region and local Cities and agencies.

The existing TMC is located in the District 7 Office Building in downtown Los Angeles. The current TMC is not an Essential Services Act facility and is not co-located with CHP. District 7 has requested moving the District office from this location to a leased building due to the high cost of retrofitting and high maintenance cost for the existing building. It is projected that the existing TMC will stay at the current location until the new TMC facility is completed and operational in the spring of 2003. A temporary move of the Upgraded TMC cannot be justified due to the extremely high cost for the system cut-over.

The 2000 SHOPP includes \$38.5 million in 00/01 for the construction of the regional TMC building for co-located Caltrans/CHP traffic management in Los Angeles and Ventura Counties. The design of the facility is funded through the MTA grant in the amount of \$6.5 million, separate State funding of \$4.0 million for the system design and cut-over, and federal funding for the mode shift in the amount of \$1.32 million (80% Federal, 20% State). State systems are funded through \$10.3 million through SHOPP Program while CHP secured \$7 million through BCP.

The following functions will be housed in the TMC:

- Caltrans - LA/Ventura County TMC Operations, TMC Support, Electrical Support, Public Information Officer, Freeway Service Patrol, Ramp Metering, Traffic Manager, Signal Timing, Planned Lane Closure, Supervisors and Support Staff
- CHP - TMC Officers, LA County Communication Center (including cellular 911 call takers and CHP dispatchers), Freeway Service Patrol, Media Information Officer, Communication Center Support, Supervisors and Support Staff
- Regional - Coordinators with other Districts and regional agencies (D8/D11/D12 and City/County).

Current Issues:

Caltrans and CHP agreed on the overall building size, staffing numbers, revised schedule and floor plan layouts. Initial project schedule was presented in phases with understanding that this approach may provide earlier completion date. Later analysis with inclusion of the plan check review time and timeline for intra-government fund transfer showed that single project is less expensive and would be completed sooner. The current schedule shows that the construction will start in the Spring 2001 and the new TMC will be fully operational in the spring of 2003.

This is very challenging project that involves coordination between several State Departments (Caltrans, CHP, DGS), local agencies (LACMTA, Cities), and outside consultants.

The project generated strong interest from elected official's offices, (Assembly Speaker A. R. Villaraigosa, Assemblyman J. Scott, Assemblyman S. Wildman, Senator A. Schiff, and Councilman R Allatore), Caltrans has been meeting with their staff from early 1998 almost on regular basis in order to keep them informed about the project. Environmental Document generated a lot of responses from the residents mostly about the aesthetics of the building and how it fits on the site and in the community. Caltrans held an informational meeting to share exterior renderings of the building with the community in October 1998.

I-5 Corridor

Major Investment Study (MIS) 1

Project Name:

I-5 Major Investment Study (I-5 MIS)

Project Limits:

I-5 from Route 91 to Route 710
(07-LA-5 PM 0.1/13.8)

Project Description:

The I-5 MIS is a long-term strategies for major capacity improvement for the I-5 corridor. It consisted of 3 years of study effort, from December 1995 to July 1998. It was sponsored by the Los Angeles County Metropolitan Transportation Authority, I-5 Consortium Cities Joint Powers Authority, California Department of Transportation, Orange County Transportation Authority, Federal Highway Administration, and the Federal Transit Administration. These agencies saw the need for future improvements in the I-5 Corridor. As a result, a MIS was conducted and supporting documents prepared to support the decisions leading to a set of preferred transportation elements. The overall goal of the I-5 MIS was to develop a cost-effective, multi-modal transportation improvement strategy that substantially increases capacity and improves safety and efficiency, while protecting the best interests of the adjacent communities. The locally preferred alternative selected includes widening the I-5 freeway to a 10-lane at-grade full standard facility. The total capital cost was estimated to be approximately \$1.5 billion (1997 dollars), including \$170 million in right-of-way costs. The proposed infrastructure cost required to save on hour of travel delay would be \$27.75. Motorists will save \$55 million per year due to less travel delay time.

Project Schedule:

The governor has allocated \$125 million for the ultimate HOV project. A portion of the funds will be used to obtain Project Approval to the Environmental Document phase completed, for a couple of overcrossings, needed in the interim HOV project, to the ultimate HOV configuration and the remainder to start design work on a couple of segments.

Public and Agency Involvement:

A cooperative and collaborative process was facilitated by the I-5 Steering Committee formed by Caltrans, providing oversight of the study and technical input based on their unique regional perspectives. The Steering Committee was comprised of representatives of the following agencies:

- California Department of Transportation (Caltrans)
- Los Angeles County Metropolitan Transportation Authority (LACMTA)
- I-5 Joint Powers Authority (JPA), representing the six cities along the I-5 Corridor. The six JPA cities include Buena Park, La Mirada, Santa Fe Springs, Norwalk, Downey, and City of Commerce.
- Orange County Transportation Authority (OCTA)
- Southern California Association of Governments (SCAG)
- Los Angeles County Department of Public Works
- City of Los Angeles Department of Transportation (LADOT)
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- Parsons Brinckerhoff Quade and Douglas, Inc. (PB); I-5 MIS Lead Consultant

Sensitive Issues:

The freeway widening will result in full acquisition of 293 residences, 140 businesses, and 32 potentially eligible or listed National Register historic properties. Partial acquisitions would include 168 residences, 359 businesses, one school, and four parks. Local access during construction is also a major concern been considered.

Project Name:

I-5 Interim HOV

Project Limits:

I-5 from Route 91 to Lakewood Blvd
(12-Ora-5 PM 42.1/44.4 and 07-LA-5 PM 0.0/8.3)

Project Description:

Short-term improvements for the I-5 to help prevent freeway levels-of-service from further deteriorating to uncontrollable levels and the time when the ultimate improvements can be implemented. I-5 between State Route 91 and Lakewood Boulevard, approximately 17 kilometers (11 miles) traversing through the cities of Buena Park, La Mirada, Santa Fe Springs, Norwalk, and Downey, serves as a principal corridor linking Orange County and Los Angeles County. It not only provides regional connectivity for Southern California commuters but also provides inter, and interstate connectivity for goods movement. The portion of I-5 in Orange County south of SR 91 is currently being widened to 9 lanes (1 HOV lane plus 4 mixed-flow lanes in each direction with future provisions for the ultimate 12 lanes). The portion of I-5 north of I-605 has a total of 8 lanes. However, the section of I-5 between SR 91 in Orange County and I-605 in Los Angeles County currently has 6 lanes, creating a bottleneck on I-5. The short-term interim HOV improvement project would serve as the first phase of the ultimate improvement addressed in the I-5MIS. The interim improvements would add HOV lane in each direction between Route 91 in

Orange County. The estimated cost for this project is \$252 million.

Public and Agency Involvement:

A cooperative and collaborative process was facilitated by the I-5 Steering Committee formed by Caltrans, providing oversight of the study and technical input based on their unique regional perspectives. The Steering Committee was comprised of representatives of the following agencies:

- California Department of Transportation (Caltrans)
- Los Angeles County Metropolitan Transportation Authority (LACMTA)
- I-5 Joint Powers Authority (JPA), representing the six cities along the I-5 Corridor. The six JPA cities include Buena Park, La Mirada, Santa Fe Springs, Norwalk, Downey, and City of Commerce.
- Orange County Transportation Authority (OCTA)
- Southern California Association of Governments (SCAG)
- Los Angeles County
- City of Los Angeles Department of Transportation (LADOT)
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- Myra L. Frank & Associates, Inc. (MFA); Lead Consultant for I-5 Interim High-Occupancy Vehicle (HOV) Lane Improvements Project

Sensitive Issues:

The proposed project will require the acquisition of both commercial and residential private property, but adequate compensation will be provided for those acquisitions. The full acquisitions would result in a loss of local property and sales tax revenues in Buena Park, La Mirada, Santa Fe Springs, and Downey. A public hearing was held on October 22, 1998 to address the project and to obtain comments from public. The environmental document was signed on December 6, 1999.

Project Schedule:

The target date for the start of construction is October 2003.
This project is expected to be completed in the year of 2007.

Project Name:

I-5 Rehabilitation Project

Project Limits:

On Route 5 from the Los Angeles/Orange County line to Washington Boulevard.
(07-LA-5 PM 0.0/11.6)

Project Description:

The Santa Ana Freeway (I-5) was originally constructed in the 1950's as a six-lane facility. The original pavement consisted of a 200 mm thick section of Portland cement concrete pavement over a 200 mm thick cement-treated

base and a variable thickness subbase. In the southbound direction between Rosecrans Ave and the Los Angeles/Orange County line, a 107 mm and variable thickness AC overlay was placed over the traveled way and shoulders in a 1969 project. In the 1970's and early 1980's, a fourth lane was added to the freeway in both the northbound and southbound directions from the San Gabriel River to Washington Blvd under several different projects. Due to its age and heavy use by traffic, the existing pavement on Route 5 is in very poor condition.

The recommended pavement rehabilitation strategy on the mainline Route 5 from the Los Angeles/Orange County line to Washington Blvd, a length of 18.7 km, is a long-life lane replacement strategy at a total project cost of \$58.9 millions. It is anticipated that this project will eventually be combined with the Route 5 Interim HOV Project (limits from Route 91 to Route 19) scheduled to begin construction in 2002. The rehabilitation work north of Route 19 is likely to become a separate project. Within the limits of the Route 5 Interim HOV Project, the median reconstruction and outside widening proposed under that project will facilitate rerouting of traffic during long-life lane replacement operations.

The recommended strategy mentioned above is consistent with a recent request by the California Transportation Commission that Caltrans study long-life pavement rehabilitation strategies. These strategies have potential benefits that include the following:

1. They can provide a 30 to 40 year pavement life as opposed to a 5 to 10 year pavement life with typical AC overlay strategies.
2. The longer pavement life means less maintenance and a fewer number of times that maintenance work will disrupt the motoring public.
3. More cost efficient on a life cycle cost basis.

Sensitive Issues:

Lane replacement work will involve closing one or more lanes on the freeway at a time during construction and will cause major traffic delays if work hours are not strictly controlled. Due to heavy traffic volumes on Route 5, it is anticipated that lane replacement work will take place primarily on weekends.

Project Schedule:

The target date for the start of construction is in the year of 2002.

Lewis Road Widening Project - Ventura Route 34

Project Description:

Background:

The project is being sponsored by the County of Ventura to be included in the 2000 STIP. To expedite programming, the County is treating this project as a locally funded project. They have contracted with Boyle Engineering to perform design work. The State will oversee the design process for the State portion of the project.

The EIR for the development of CSUCI adopted in 1998 identified the need for increased roadway capacity for both vehicles and bicyclist to access the new university. As a condition of the approval of the EIR, Lewis Road was to be widened to four lanes with 2.4 meter (8-foot) shoulders on each side, to double as bicycle lanes. In 1998, \$2.5 million in CMAQ funds and \$4 million in STP funds were allocated for improvements to Lewis Road.

Because of the projected increase in traffic volumes on Lewis Road, VCTC has added it to its list of significant highways in Ventura County and is the lead agency for the widening of Lewis Road.

What The Work Involves:

- Location and Limits- The project will widen Lewis Road from two lanes to four lanes between Ventura Boulevard and Hueneme Road along State Route 34 in the City of Camarillo in Ventura County.
- Length (KP/PM)- The project begins at KP 20.56 (PM 12.78) and ends at KP R21.79 (PM R13.54). The overall length of the State portion of the project is 1.23 kilometers (0.76 miles).
- Benefits- Widening Lewis Road will bring the Level of Service (LOS) to C in both the a.m. and p.m. peak hours.

Project Issues:

The Project involves a portion of Lewis Road that is owned by the State, about 20% of the total length. Two PSRs were prepared; one for the State and one for the County portion. The County combined the two PSRs and submitted them as a single document for approval and programming. The project report will be handled similarly. The County will also be responsible for creating and monitoring the work plan although the State will provide oversight at an estimate of 10% of the programmed project support cost.

Right-of-Way

The right-of-way will be obtained from property owners immediately east of Pleasant Valley Road. This includes the acquisition of parcels from the UPRR and from property owners east of Lewis Road, north of Pleasant Valley Road. Ventura County Flood Control District (VCFCD) also has an easement from this landowner for their floor control channel, and must also be included in the process. It is anticipated that right-of-way acquisition for Lewis Road improvements will be performed by the County of Ventura. The acquisition process will follow federal guidelines.

Concerned Communities:

- City of Camarillo
- Involved Elected Officials or Others:
- County of Ventura
- Ventura Transportation Commission

Schedules:

- PA & ED – 02/01(T)
- RTL – 07/01(T)

Total Project costs (capital & support):

The total price of this project is estimated to be \$7,065,000.

Route 210 - Foothill Freeway GAP Closure Project

PROJECT FEATURES

- The Foothill Freeway corridor stretches through San Bernardino and Los Angeles Counties through the cities of La Verne, Claremont, Upland, Rancho Cucamonga, Fontana, Rialto, and San Bernardino.
- Total length is 28.2 miles with approximately 6.5 miles in LA County.
- Three general-purpose lanes in each direction.
- Two additional car pool lanes for High Occupancy Vehicle (HOV) traffic, one in each direction.
- 49 new structures; 14 local street interchanges; 1 freeway to freeway interchange; retaining walls; soundwalls; landscaping

BENEFITS

This corridor has been in the planning since 1959. When completed, the project will close the gap between the east west Foothill Freeway, currently ending in La Verne at Foothill Boulevard, and the I-15. Ultimately the 30 corridor will be built to Route 215 in San Bernardino, removing some 43,000 vehicles a day from local arterial, such as Baseline Road, Foothill Blvd., and Arrow Highway in the Route 30 corridor.

It is projected that employment in this area will increase by 57 percent between now and the year 2010 according to forecasts by the Southern California Association of Governments. This increase in people generated the need for greater highway capacity in this area.

PROJECTS GOALS

- Facilitate the movement of people and goods by completing the planned integrated regional transportation network between western San Bernardino County and eastern Los Angeles County.
- Improve traffic safety by removing existing at-grade intersections and changes in road alignment.
- Comply with state, regional and local plans and policies by conforming to the Air Quality Management Plan by including HOV lanes and increased capacity with mixed-flow lanes which will reduce vehicle hours traveled resulting in a decrease in vehicle emissions.

COST

Project cost in Los Angeles County is estimated to be \$310 million. The estimated cost of the entire project is \$1 billion, which will be funded by local, state and federal gas and transportation taxes.

SCHEDULE

Construction of Route 210 began in 1998 and is expected to be completed by the middle of 2002. Work is under-way in both counties, to construct the bridges crossing the freeway, as well as the massive 210/I-15 interchange. The freeway will be opened at one time, from the current terminus of Route 30 in La Verne, through the City of Fontana. This phase is 22 miles long. The remaining portion, to I-215 in San Bernardino, will be completed at a later date.

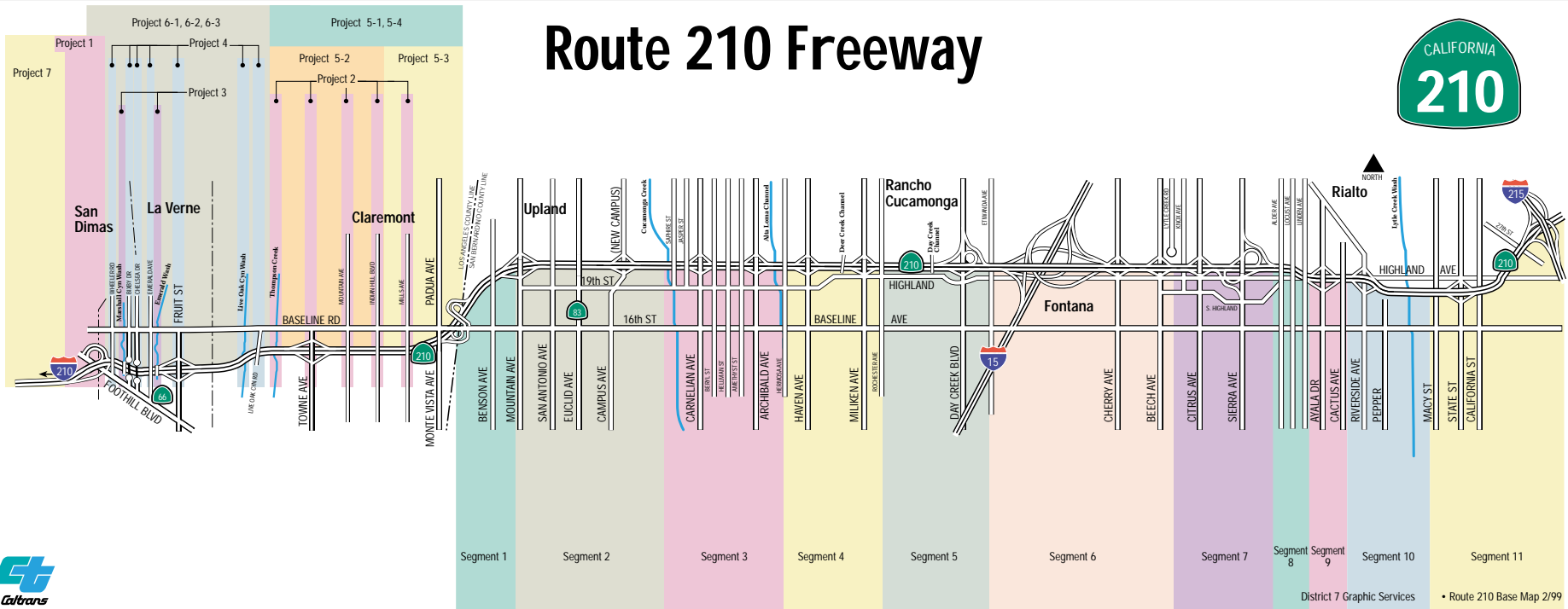
CONSTRUCTION SEQUENCE

- In general, the construction sequence is as follows:
Structures==>Excavation/Retaining Walls/Soundwalls===>Paving===>Landscaping.
- Where possible, overcrossing construction will be staged to minimize detouring of traffic; soundwalls will be constructed as early as possible to mitigate noise and dust; early overcrossing construction will allow dirt hauling within right of way, minimizing truck and construction traffic on local streets.

PUBLIC INFORMATION

- AB 2388, passed by legislation in 1998 and effective January 1, 1999, has redesignated Route 30 to Route 210
- The District has been publishing a quarterly Project news letter
- School Awareness Program has been developed to alert students, teachers, and parents of construction activities and safety awareness
- A World Wide Web page has been created (www.dot.ca.gov/dist07)

Route 210 Freeway



I-405/US-101 Interchange Projects

The 405/101 interchange is one of the busiest interchanges in California, carrying over 530,000 vehicles each day. In order to mitigate the congestion at the I-405/US-101 Interchange. Caltrans is in the process of designing and constructing two projects, which will improve the flow of traffic in the vicinity of the interchange.

In order to alleviate the traffic congestion that occurs in the vicinity of the interchange, Caltrans has stepped up its efforts to accelerate the delivery of both of these projects by proceeding on a risk design basis.

The first project is to widen the segment of Route 405 between Mulholland Drive Overcrossing and Ventura Boulevard undercrossing, by adding an auxiliary lane in the northbound direction for a total length of approximately 3.2 kilometers (~2 miles). This project has been fully programmed in the STIP at \$11.4 million for both capital and support cost, and is in the design phase. It is scheduled to start construction in the Spring of 2001 with completion in the Spring of 2003.

The second project is to widen the segment of the single lane northbound I-405/ southbound US-101 connector, from north of Ventura Blvd. Undercrossing to west of Kester Avenue Undercrossing, by adding an additional lane for a total length of approximately 950 meters (~3120 feet). This project will add an operational improvement to the interchange in conjunction with the above project. This project has been fully programmed in the STIP at \$10.7 million for both capital and support cost, and is in the design phase. It is scheduled to start construction in the Fall of 2001 with completion in the Fall of 2003.

A third project is underway to close the gap between the above two projects and is in the Project Study Report (PSR) stage. This project extends the auxiliary lane past the Greenleaf off-ramp to the Route 101 Connector, close the loop on-ramp from westbound Ventura Blvd. and braid (grade separate) the slip on-ramp from Sepulveda Blvd to northbound Route 405 with the Route 101 Connector by carrying the slip on ramp under the connector thus eliminating the existing weave in this congested area. The preliminary estimated cost for this project is approximately \$28.3 million, which includes support cost. The PSR is estimated to be approved by July of 2000. It is anticipated that this project will be submitted as a candidate project in the 2002 STIP cycle.

Feasibility Studies For Truck Lanes On SR-60 And US-101

POMONA (SR-60) FREEWAY

As addressed in the '98 Regional Transportation Plan (RTP), the population growth in Southern California is estimated to increase by 43% by the year 2020 from 15.61 million and employment to increase by 60% from 10.6 million. The Pomona (SR-60) Freeway is one of the most heavily used truck routes for goods movement. The forecasted truck volume along the route showed an increase of 40% or 216, 000 trucks due to this projected population increase and growth in the regional economic activity.

In order to enhance economic competitiveness in this region, reduce congestion, and improve air quality the feasibility study for constructing exclusive truck lanes has been initiated for SR-60, between Route 710 and Route 15, in partnership with the Southern California Association of Governments (SCAG).

The consultant is expected to begin work by April 1, 1999 and is scheduled to submit a draft report of the findings by May 1, 1999.

US-101 Freeway

The US-101 corridor in Los Angeles County is highly developed and is primarily a mix of residential and commercial uses. The 101 freeway is one of the most congested freeways in the nation, with existing three hours of congestion during the a.m./p.m. peak travel periods.

In October 1998, Congressman Brad Sherman along with the U.S. Secretary of Transportation Rodney Slater committed, to Caltrans, federal money in the amount of \$500,000 to initiate a congestion relief feasibility study of the US-101 freeway, between SR-134 in Los Angeles County and SR-23 in Ventura County. The funds were augmented by SCAG to include the 101 segment from Downtown Los Angeles to SR-134. Caltrans has been working, since the money transfer in December 1998, with SCAG and Congressman Sherman's office to finalize a scope of work for bid solicitation from prospective consultants.

Among the objectives of the study, are to provide design alternatives for a project or projects along the corridor, financial factors, and financing of these alternatives. The study consists of two segments. The first segment is from 7th Street to Route 134 in Los Angeles County with special emphasis on the 101/405 interchange, and the second segment is from the 134/170 interchange in Los Angeles County to SR-23 in Ventura County.

It is anticipated that the consultant for this study will be selected by June 1999.

710 Freeway Extension

Brief Project Description:

Construct six-lane freeway and two high-occupancy-vehicle lanes, between the I-10 Freeway in the City of Alhambra, and the I-210 Freeway in the City of Pasadena.

Background

Route 710 is a major north-south Interstate route used for inter-regional and intraregional commuting and shipping through an urbanized corridor, connecting the Ports of Long Beach and Los Angeles to the western San Gabriel Valley.

- In 1964 the California Highway Commission adopted the "Meridian Route" for the 710 Extension through the Cities of Alhambra, Los Angeles, South Pasadena and Pasadena to close the 6.2-mile gap between Routes 10 and 210, in order to maintain the best possible levels of service.
- The City of South Pasadena filed a lawsuit in 1973 to require that an Environmental Impact Statement (EIS) be completed. At the instruction of the Court, Caltrans and the Federal Highway Administration (FHWA) prepared a Draft Environmental Impact Statement (DEIS) in 1974. In 1976 a DEIS-Supplement was prepared. A second DEIS Supplement was prepared in 1983.

- In 1986 a third DEIS-Supplement was prepared, to present the Meridian Variation Alternative, which was developed to reduce the project's impacts on historic properties.
- In 1992, the Federal Highway Administration (FHWA) gave conditional approval of the Final Environmental Impact Statement, which selected the Meridian Variation Alternative as the preferred Alternative. Caltrans at the direction of FHWA created the Route 710 Mitigation and Enhancement Advisory Committee, which made recommendations for measures that would further reduce the project's impacts.
- Caltrans incorporated approximately 90% of the recommendations in its June 1993 report.
- The California Transportation Commission (CTC) voted to approve the freeway alignment known as the "Meridian Variation Alternative" on September 14, 1994.
- On April 13, 1998, FHWA approved the Record of Decision (ROD) with additional conditions.
- The CTC, at Caltrans request, filed a Notice of Determination (NOD) on April 14, 1998, starting the 30-day statute of limitations on filing legal challenges to the Final Environmental Impact Report (EIR).
- On May 13, 1998, the City of South Pasadena and its allies filed a lawsuit against Caltrans and the CTC in State Court. A similar suit was filed in Federal Court against Caltrans and the FHWA on June 10, 1998. Both lawsuits are ongoing.
- On July 9, 1999, the court issued an injunction preventing Caltrans from acquiring any additional properties for 710 project or construction of 710 project. However the injunction will not prevent Caltrans from doing planning or design.
- Caltrans has programmed \$9.7 million through the ITIP for Interim Traffic Improvement projects throughout the 710 corridor as mandated by FHWA in the Record of Decision (ROD).
Total estimate for Interim Traffic Improvement projects proposed by the Design Advisory Group (DAGs) was \$25.1 million. The DAGs are seeking to fund the remainder of the projects through ITIP or RTIP. A Draft Contribution Agreement was sent to four impacted cities for their review on December 7, 1999. The contribution Agreements will distribute the programmed fund (\$9.7 million) per projects identified by the impacted cities. The following are the distribution:

City of Alhambra	\$1.95 million in capital cost and \$414,000 in support cost.
City of Los Angeles (El Sereno)	\$1.45 million in capital cost and \$308,000 in support cost.
City of Pasadena	\$1.80 million in capital cost and \$382,000 in support cost.
City of S. Pasadena	\$2.7 million in capital cost and \$574,000 in support cost.

- Caltrans is mandated by Statute and Environmental Laws to retrofit historic properties owned by Caltrans throughout the 710 corridor. \$19.44 million of programmed funds have been spent to retrofit these properties and Caltrans' right of way needs additional \$22 million to retrofit the remainder of the properties.

PROS:

- This project will provide a critical connecting link to the regional transportation highway system, allowing the system to operate more efficiently and effectively.
- It will divert through traffic from local arterials, thereby relieving traffic congestion and better serving the existing and future local transportation needs of the area.
- It will provide a critical link in a program wide High Occupancy Vehicle (HOV) lane system by connecting the HOV lanes on 4 major freeways.
- It will provide a crucial element in the regions' air quality management plan by reducing traffic congestion and promoting free flowing traffic.

CONS:

The adverse community and environmental impacts associated with the project are as follows:

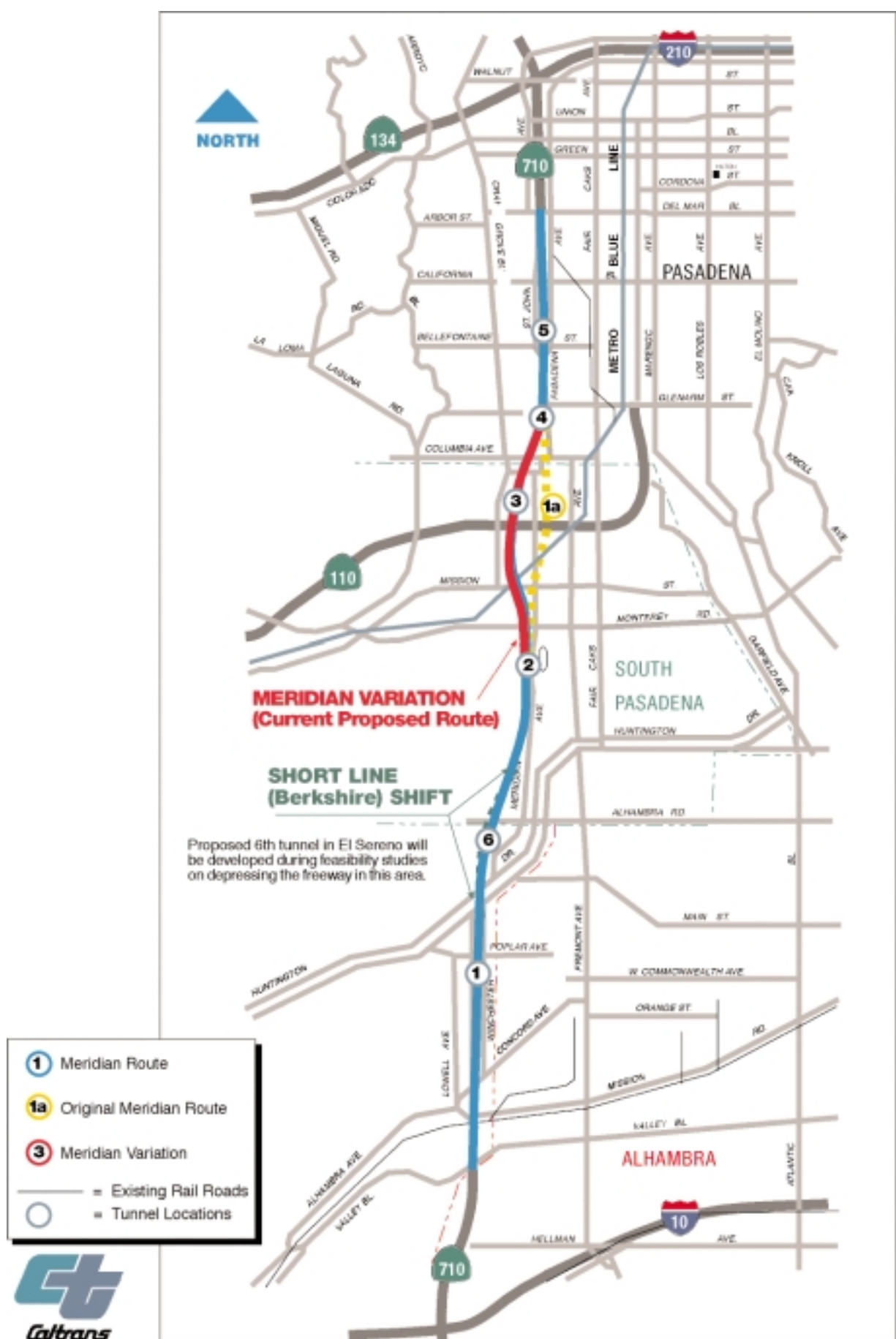
- Residential disruption - 976 dwelling units, with approximately 2,700 occupants, would be dislocated.
- Disruption of community cohesion - Freeway construction would divide existing neighborhoods and disrupt affiliation patterns.
- Four Historic Districts and six individual properties, that are eligible for listing on the National Register of Historic Places, would be directly impacted by the project. A total of 52 historic properties, including the Historic Pasadena Freeway would be impacted.
- Approximately 6,000 mature trees would be removed by the project.
- Short term impacts during construction -Fugitive dust and increased noise due to construction activities and the operation of heavy equipment. Water run-off and disruption of traffic patterns due to hauling activities and temporary detours.
- Elevation in ambient noise levels - Following construction, neighborhoods in the Freeway Corridor would experience a general increase in ambient noise levels due to traffic generated noise.

OPPONENTS:

The City of South Pasadena, the South Pasadena Unified School District, Federal Advisory Council on Historic Preservation (ACHP), the National Trust for Historic Preservation, the Los Angeles Conservancy, the South Pasadena Cultural Heritage Commission, and the Pasadena Cultural heritage Commission.

SUPPORTERS:

Caltrans, FHWA, SCAG, the Automobile Club of Southern California, and the Cities of Los Angeles, Alhambra, Pasadena, Monrovia, Duarte, Arcadia, Monterey Park, Bell Gardens, Cudahy, and Long Beach.



GOVERNOR'S TRANSPORTATION 2000 INITIATIVE

APPROVED CALIFORNIA TRANSPORTATION CONGESTION RELIEF PLAN

The state has enacted, through AB2928 and SB 406, the California Transportation Congestion Relief Plan. This Plan will be implemented by dedicating all the gasoline sales tax revenues to transportation for five years; providing additional funding for local streets and roads, the State Transportation improvement program (STIP), and the Public Transportation Account (PTA).

The transportation congestion Relief Plan will be funded from a combination of General Fund (GF) revenues and a five-year transfer of the sales tax revenues from the sales of gasoline. It will provide over the six-year period, approximately \$6.8 billion for transportation projects and programs, including approximately \$4.9 billion for specified project, \$600 million in additional STIP fun \$1 billion in local streets and roads funds, and \$300 million in PTA funds (transit and rail programs). Appropriations will be made after Proposition 98 and Vehicle License Fee commitments are met.

Eligible Projects:

The following projects are eligible for grants from the fund for the purposes and amounts specified:

County	Project	ESTIMATED COST (millions)	General Funds	Bill Reference #
Los Angeles	Bus fleet: acquire new clean fuel Buses for LAMTA.	\$150	\$150	33
Los Angeles	Blue line to Los Angeles - New rail line Pasadena to Los Angeles	\$40	\$40	34
Los Angeles	San Diegan (Pacific Surfliner): triple track within LA County and add run-through-tracks through LA Union Station	\$176	\$100	35
Los Angeles	LA Eastside Transit Extension: build new light rail line into East LA, from Union Station to Atlantic via 1st St. to Lorena	\$704	\$236	36
Los Angeles	LA Mid-City/Transit Extension: build Light Rail Transit and Bus Rapid Transit system in Mid-City/Westside/Exposition Corridors	\$595	\$256	37
Los Angeles	LA San Fernando Valley Transit Extension: build Bus Rapid Transit system in Burbank-Chandler Corridor North Hollywood to Warner Center	\$291	\$245	38
Los Angeles	Rte 405: add northbound HOV lane over Sepulveda Pass, Rte 10 to Rte 101	\$336	\$90	39
Los Angeles	Rte 10: add HOV lanes on San Bernardino Freeway over Kellogg Hill, near Pomona, Rte 605 to Rte 57	\$300	\$90	40
Los Angeles	Rte 5: add HOV lanes on Golden State Freeway through San Fernando Valley, Rte 170 (Hollywood Freeway) to Rte 14 (Antelope Valley Freeway)	\$164	\$50	41
Los Angeles	Rte 5: widen Santa Ana Freeway to 10 lanes (2 HOV + 2 mixed flow), Orange County line to Rte 710, with related major arterial improvements	\$1,250	\$125	42
Los Angeles	Rte 5: improve Carmenita Road interchange in Norwalk	\$87	\$71	43
Los Angeles	Route 47 (Terminal Island Fwy) at Ocean Blvd Overpass - construct interchange in the city of Long Beach	\$48.2	\$18.4	44
Los Angeles	Rte 710: complete Gateway Corridor Study, LA/LB Ports to Rte 5	\$4	\$2	45
Los Angeles	Rte 1 at Rte 107 (in Torrance) Reconstruct intersection	\$2	\$2	46
Los Angeles	Rte 101: complete environmental studies to improve corridor from Rte 170 (North Hollywood Freeway) to Rte 23 in Thousand Oaks (Ventura County)	\$3	\$3	48
Los Angeles	Highland Avenue at Hawthorn - Intermodal Transportation Center	\$50	\$10.0	49
Los Angeles	Rte 71: complete 3 miles of 6 lane freeway through Pomona, from Rte 10 to Rte 60	\$60	\$30	50
Los Angeles	Rte 101/405: add auxiliary lane and widen ramp through freeway interchange in Sherman Oaks	\$62	\$21	51
Los Angeles	Rte 405: add HOV and auxiliary lanes for 1 mile in West LA, from Waterford Ave to Rte10	\$74	\$25	52
Los Angeles	Automated Signal (ATSAC) Corridors: improve 479 automated signals in Victory/Ventura Corridor, and add 76 new automated signals in Sepulveda Boulevard, and Rte 118 Corridors	\$16.0	\$16	53
Los Angeles	Alameda Corridor East: build grade separations on BNSF and UPRR lines, Downtown LA to LA County line	\$950	\$150.0	54
Los Angeles	Construction of a new siding in Sun Valley between Sheldon Street and Sunland Boulevard	\$6.5	\$6.5	145
Los Angeles	Purchase of 5 alternative fuel buses for the Pasadena Area Rapid Transit System	\$1.1	\$1.0	151
Los Angeles	Pasadena Blue Line transit-oriented mixed-use development	\$5.085	\$1.5	152
Los Angeles	Pasadena Blue Line utility relocation	\$1.05	\$0.55	153
Los Angeles	Route 134/I-5 interchange study	\$0.1	\$0.10	154
Los Angeles	Remodel the intersection of Olympic Boulevard and Lemon Street and install a new traffic signal	\$2.0	\$2.0	158

FREQUENTLY USED ACRONYMS

AADT: (Average Annual Daily Traffic) Denotes that the daily traffic is averaged over one calendar year.

ADT: (Average Daily Traffic) The average number of vehicles passing a specified point during a 24-hour period.

AQMD: (Air Quality Management District) A regional agency, which adopts and enforces regulations to achieve and maintain state and federal air quality standards.

AQMP: (Air Quality Management Plan) The plan for attaining state air quality as required by the California Clean Air Act of 1988. The plan is adopted by air quality districts and is subject to approval by the California Air Resources Board.

ATIS: (Advanced Traveler Information Systems)

ATMS: (Advanced Traffic Management Systems)

AVCS: (Automated Vehicle Control Systems)

AVO: (Average Vehicle Occupancy) The average number of persons occupying a passenger vehicle along a roadway segment intersection, or area, as typically monitored during a specified time period. For the purpose of the California Clean Air Act, passenger vehicles include autos, light duty trucks, passenger vans, buses, passenger rail vehicles and motorcycles.

AVR: (Average Vehicle Ridership) The number of employees who report to a worksite divided by the number of vehicles driven by those employees, typically averaged over an established time period. This calculation includes crediting vehicle trip reductions from telecommuting, compressed workweeks and non-motorized transportation.

Caltrans: (California Department of Transportation) As the owner/operator of the state highway system, state agency responsible for its safe operation and maintenance. Proposes projects for intercity rail, interregional roads, and sound walls. Also responsible for the SHOPP, Toll Bridge, and Aeronautics programs. Caltrans is the implementing agency for most state highway projects, regardless of program, and for the Intercity Rail program.

CBD: (Central Business District) The downtown core area of a city, generally an area of high land valuation, traffic flow, and concentration of retail business offices, theaters, hotels, and service businesses.

CCTV: (Closed Circuit Television)

CEQA: (California Environmental Quality Act) A statute that requires all jurisdictions in the State of California to evaluate the extent of environmental degradation posed by proposed development or project.

CHP: (California Highway Patrol)

CIP: (Capital Improvement Program) A seven-year program of projects to maintain or improve the traffic level of service and transit performance standards developed and to mitigate regional transportation impacts identified by the CMP Land Use Analysis Program, which conforms to transportation-related vehicle emissions air quality mitigation measures.

CMA: (Congestion Management Agency) The agency responsible for developing the Congestion Management Program and coordinating and monitoring its implementation.

CMAQ: (Congestion Mitigation Air Quality program) Part of ISTEA, this is a funding program designed for projects that contribute to the attainment of air quality goals.

CMP: (Congestion Management Program) A legislatively required countywide program, which addresses congestion problems.

CMS: (Changeable Message Sign)

CMS: (Congestion Management System) Required by ISTEA to be implemented by states to improve transportation planning.

CTC: (California Transportation Commission) A body established by Assembly Bill 402 (AB 402) and appointed by the Governor to advise and assist the Secretary of the Business, Transportation and Housing Agency and the Legislature in formulating and evaluating state policies and plans for transportation.

D/C: (Demand-to-Capacity ratio) The relationship between the number of vehicle trips operating on a facility, versus the number of vehicle trips that can be accommodated on that facility.

DSMP: (District System Management Plan) A part of the system planning process. A district's long-range plan for management of transportation systems in its jurisdiction.

EIR: (Environmental Impact Report) A report prepared pursuant to CEQA that analyzes the level of environmental degradation expected to be caused by a proposed development or project.

FAI: (Federal Aid Interstate) Highway program established in 1956 for national defense purposes, these roadways interconnect the major nationwide population and economic centers. Also, there is a federal funding category for these routes.

FHWA: (Federal Highway Administration)

Freeway Capacity: The maximum sustained 15 minute rate of flow that can be accommodated by a uniform freeway segment under prevailing traffic and roadway conditions in a specified direction.

FSP: (Freeway Service Patrol) A special team of tow truck drivers who continuously patrol freeways during commuter hours to help clear disabled automobiles.

HOT Lanes: (High Occupancy Toll Lane) New HOV lanes that allow single occupant vehicles access for a fee.

HOV: (High Occupancy Vehicle Lane) A lane of freeway reserved for the use of vehicles with more than a preset number of occupants; such vehicles often include buses, taxis and carpools.

I/C: (Interchange) A system of interconnecting roadways in conjunction with one or more grade separations providing for the interchange of traffic between two or more roadways on different levels.

IRRS: (Interregional Road System) A series of interregional state highway routes, outside the urbanized areas, that

provide access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions.

ISTEA: (Intermodal Surface Transportation Efficiency Act) Federal legislation and funding Program adopted in 1991. It provides increased funding and program flexibility for multi-modal transportation programs. Update: ISTEA expired on September 30, 1997. In December 1997, Congress passed and the President signed a six-month extension of the law, holding funding to current levels and keeping program structure and formulas intact. This extension expired on March 31, 1998, with an obligation deadline of May 1, 1998. On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century (TEA-21) authorizing highway, highway safety, transit and other surface transportation programs for the next 6 years. TEA-21 builds on the initiatives established in the 1991 ISTEA.

ITIP: (Interregional Transportation Improvement Program) An improvement program that makes up 25% of the STIP. 60% of this program is for improvements on Interregional Routes in non-urbanized areas and intercity rail. 40% is to fund projects of interregional significance (for the interregional movement of people and goods).

ITMS: (Intermodal Transportation Management System) A quick-response statewide sketch planning tool to assist planners in evaluating proposals in order to improve spending decisions. It provides the capability to analyze the current transportation network and to evaluate the impacts of investment options at the corridor area or statewide level.

ITS: (Intelligent Transportation Systems) The application of electronics and computer information systems to transportation.

ITSP: (Interregional Transportation Strategic Plan) Caltrans guiding framework for implementing the Interregional Improvement Program under Senate Bill 45.

IVHS: (Intelligent Vehicle Highway Systems) The development of application of electronics, communications or information processing (including advanced traffic management systems, public transportation systems, satellite vehicle tracking systems, and advanced vehicle communications systems) used alone or in combination to improve the efficiency and safety of surface transportation systems.

LACMTA: (Los Angeles County Metropolitan Transportation Authority)

LADOT: (Los Angeles Department of Transportation)

LARTS: (Los Angeles Regional Transportation Study) An organization of transportation planners and data analysts who have developed and are charged with monitoring and forecasting travel in the Los Angeles area. It has primary responsibility for predicting future travel behavior within six counties (Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial) which comprises the Southern California Association of Governments (SCAG) region. It operates under the aegis of CALTRANS, District 7, and functions with the support of SCAG, U.S. Department of Transportation, and transit districts, cities and counties of the SCAG region.

LIR: (Local Implementation Report) A report that jurisdictions must submit to LACMTA to remain in conformance with Los Angeles County Congestion Management Program (CMP) requirements. This report is submitted on an annual basis, and contains a resolution of conformance, new development activity reporting, selected mitigation strategies and credit claims and future transportation improvements.

LOS: (Level of Service) A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

LROP: (Long-Range Operations Plan)

MF: (Mixed Flow) Traffic movement having automobiles, trucks, buses, and motorcycles sharing traffic lanes.

MPAH: (Master Plan of Arterial Highways)

MPO: (Metropolitan Planning Organization) According to U.S. Code, the organization designated by the governor and local elected officials as responsible, together with the state, for the transportation planning in an urbanized area. It serves as the forum for cooperative decision making by principal elected officials of general local government.

Multi-modal: Pertaining to more than one mode of travel.

NHS: (National Highway System) Will consist of 155,000 miles (plus or minus 15 percent) of the major roads in the U.S. Included will be all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors.

NOP: (Notice of Preparation) A notice informing potentially affected agencies that an Environmental Impact Report (EIR) is being prepared for a proposed development or project.

Performance Indicator: Quantitative measures of how effective an activity, task, or function is being performed. In transportation systems, it is usually computed by relating a measure of service output or use to a measure of service input or cost.

PM: (Post Mile) Is the mileage measured from a county line or the beginning of a route to another county line or the ending of the route. Each post mile along a route in a county is a unique location on the State Highway System.

PMT: (Passenger Miles Traveled) The number of miles traveled by all passengers on a transportation mode such as transit.

PPN: (Planning and Program Number) Used in the State Transportation Improvement Program (STIP) to identify projects.

PSR: (Project Study Report) The pre-programming document required before a project may be included in the STIP.

RME: (Regional Mobility Element) SCAGs major policy and planning statement on the region's transportation issues and goals. It is comprised of a set of long-range policies, plans, and programs that outline a vision of a regional transportation system compatible with federal and state mobility objectives. Formerly called the Regional Mobility Plan (RMP).

RMP: (Regional Mobility Plan) The equivalent to the federal and state required Regional Transportation Plan (RTP) for the SCAG region.

RSA: (Regional Statistical Area) An aggregation of census tracts for the purpose of sub-regional demographic and transportation analysis within the Southern California Association of Governments (SCAG) area.

RTIP: (Regional Transportation Improvement Program) A list of proposed transportation projects submitted to the CTC by the regional transportation planning agency, as a request for state funding through the FCR and Urban and Commuter Rail Programs. The individual projects are first proposed by local jurisdictions (CMAs in urbanized counties), then evaluated and prioritized by the RTPA for submission to the CTC. The RTIP has a seven-year planning horizon, and is updated every two years.

RTP: (Regional Transportation Plan) A comprehensive 20-year plan for the region, updated every two years by the regional transportation-planning agency. The RTP includes goals, objectives, and policies, and recommends specific transportation improvements.

RTPA: (Regional Transportation Planning Agency) The agency responsible for the preparation of RTPs and RTIPs and designated by the State Business Transportation and Housing Agency to allocate transit funds. RTPAs can be local transportation commissions, COGs, MPOs or statutorily created agencies. In the Los Angeles area, SCAG is the RTPA.

SCAB: (South Coast Air Basin) A geographic area defined by the San Jacinto Mountains to the east, the San Bernardino Mountains to the north, and the Pacific Ocean to the west and south. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

SCAG: (Southern California Association of Governments) The Metropolitan Planning Organization (MPO) for Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial counties that is responsible for preparing the RTIP and the RTP. SCAG also prepared land use and transportation control measures in the 1994 Air Quality Management Plan (AQMP).

SCAQMD: (South Coast Air Quality Management District) The agency responsible for preparing the Air Quality Management Plan (AQMP) for the South Coast Air Basin.

SCRRA: (Southern California Regional Rail Authority) Operates Metrolink.

SHOPP: (State Highway Operation and Protection Program) A four-year program limited to projects related to State highway safety and rehabilitation.

SR: (State Route)

SRTP: (Short-Range Transit Program) A five-year comprehensive plan required by the Federal Transit Administration for all transit operators receiving federal funds. The plans establish the operator's goals, policies, and objectives, analyze current and past performance, and describe short-term operational and capital improvement plans.

STIP: (State Transportation Improvement Program) A list of transportation projects, proposed in RTIPs and the PSTIP, which are approved for funding by the CTC.

STP: (Surface Transportation Program) Part of ISTEA, this is a funding program intended for use by the states and cities for congestion relief in urban areas.

TCR: (Transportation Concept Report) Formerly Route Concept Report (RCR) this report analyzes a transportation corridor service area, establishes a twenty-year transportation planning concept and identifies modal transportation options and applications needed to achieve the twenty-year concepts.

TDM: (Transportation Demand Management) Demand based techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of peak hours.

TEA-21: (Transportation Equity Act for the 21st Century) Signed by President Clinton on June 9, 1998. TEA-21 builds on the initiatives established in the ISTEA Act of 1991. This new Act combines the continuation and improvement of current programs with new initiatives to meet the challenges of improving safety as traffic continues to increase at record levels, protecting and enhancing communities and the natural environment as we provide transportation, and advancing America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

TIA: (Transportation Impact Analysis) An analysis procedure to assist local jurisdictions in assessing the impact of land use decisions on the Congestion Management Program (CMP) system for Los Angeles County.

TMC: (Transportation Management Center) A focal point that can monitor traffic and road conditions, as well as train and transit schedules, and airport and shipping advisories. From here, information about accidents, road closures and emergency notifications is relayed to travelers.

TOS: (Traffic Operation System) Computer based signal operation.

TSM: (Transportation System Management) That part of the urban transportation Process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short-term, low capital transportation improvements that generally cost less and can be implemented more quickly than system development actions.

TW: (Transitway)

VCTC: (Ventura County Transportation Commission)

Vehicle Occupancy: The number of people aboard a vehicle at a given time; also known as auto or automobile occupancy when the reference is to automobile travel only.

Vehicle Trip: A one-way movement of a vehicle between two points.

V/C: (Volume/Capacity).

VMT: (Vehicle Miles Traveled) (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specified time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the time period. (2) In transit, the number of vehicle miles operated on a given route or line or network during a specified time period.

VSM: (Vehicle Service Miles) The total miles traveled by transit service vehicles while in revenue service.

